

IND

# Basic Modeling Techniques Explained

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# MODEL CAR *Science*

September 1970

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AMT'S NEW  
4-WHEEL DRIVE  
OFF-ROAD RACER

RIGGEN'S WILD  
1/32 SCALE  
'MAVERICK GRABBER'

MPC'S GIANT  
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VOLUME 8, NUMBER 9

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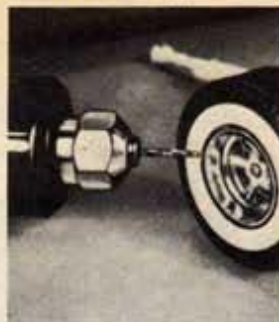
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## **THE EDITOR'S CHAIR**

Next month MCS turns a very important corner. We're expanding, in a very big way, into the wild world of radio controlled, gas powered auto racing. If you've never seen these huge (1/8 scale) model (it hardly seems fair to call them that) cars run, you just haven't lived!

Gas powered, radio controlled cars will literally do anything that a big car will do. Some have suspensions, some have solid axles, etc., but they all accelerate like banshees, drift through turns, shut down for corners and boom along the high-speed straights like big Can-Am cars!

The cost of these machines is a bit high, at the moment, but it's coming down rather rapidly. Of Course, the more people who get into this rapidly expanding sport, the better, as increased demand will result in higher production runs, thus lowering the cost.

Anyway, I'm sure you'll want to look in, next issue, and see what the shouting is all about. There'll be other changes in MCS, too. We're going to be catering to the "perfection" model builder a bit more, with articles on trucks, classic cars and armor. Obviously we won't be abandoning the funny cars, customs and hot rods, nor will we forget the slot racing fans. We're simply broadening our horizons a bit. The model world is too full of interesting goodies to waste our time staring down a tunnel, so to speak.

It is with great sorrow that I must report the untimely, tragic death of Lou Kroach's young son, Ray, who drowned on June 11th. Ray was a fine young fellow, clean-cut and intelligent. Lou's name might not be too familiar to you, until I tell you that he's the gentleman whose fine truck articles have appeared in the last few issues of MCS. If you want to join us in expressing your sympathies to Lou and his wife, their address is Edgewood Drive, Ext. Rd. 1, Transfer, Pa. 16154.



# SMALL STUFF

By Bill Von Staden

I now have two chances of beating a TycoPro: probably and definitely! My car? A Super Cobramite. That's right HO fans, a *Super* Cobramite. Unlike the original (which I disliked), this new version has improved pickups and a Mabuchi motor, and comes with an optional set of sponge tires. I said that the original car was a good idea, but had some basic flaws. Well, the flaws are gone and the result is a car that will either keep with or beat a T.P. in the straights, and *outhandle* it in the corners! Of course, like any car, it can be improved. But, in practically stock form it will give anything a good race. That means with just a pair of AJ's 007s on the rear hubs (I still like silicones best) the car goes, stops, and handles — predictably.

If you buy one of the new Cobramites and want to go bananas on the modifications, it can be done. La-Ganke brass axle bearings should be your first move. With the 'mite's "dual frame" construction, it is easy to put a bind on the rear axle. Any of the popular front and/or rear wheel sets will fit. Of course any Lancer body will fit, if you want a different body style or want to do your own painting. (Oh yeah, Cobra is offering some new body styles on the Super 'Mite. The 'Vette, Lola T-70 mk. III, Ferrari P4 Coupe and possibly the Charger Daytona will be available.) The tops of the frame rails can be cut down to lower the C.G. Gears are a problem. As in the old CobraMite, they are 2.5-to-1. This could be bad news on some of the small home tracks, but I understand Cobra will bring forth some optional ratios (like 3.0, 3.5, and 4.0-to-1, I hope.) And since the S.C.M. uses the same Mabuchi motor as the TycoPro, all of Mura's motor goodies for the T.P. will fit it, too. All in all, I really think Cobra has done it this time. I like the Super 'Mite, and I run one, amen.

Hobby House (yes, again) is now offering deep-dish setscrew wheels at \$1.25 a pair when equipped with either soft or supersoft compound silicone tires, or for 80 cents without tires. The tires are 60 cents a pair. They really bite, but wear out very quickly. (Note to Tom Malone — here are some sillies that absorb those nasty old shocks, try 'em.) H.H. is also offering — get ready — clear silicones! They go for 60 cents, and really work, even if they do look like Lifesavers! Mr. Harrison says he's considering

glow-i-cones, tires that glow in the dark. Enough of this madness, Richard, I think your mind has gone out to lunch.

Ted Johnson, author of an article in the Auto World "HO Racing Speed Secrets" book, has started a new "service," as he calls it. HOMIR, or HO Mail In Racing, offers the HO racer a chance to race his car by mail. This is NOT a club, it is a service open to anyone. Official National Record Races are to be held periodically to establish record times. Two events, the standing quarter mile, and the flying mile, are offered. Twenty-five cents gets you a rule book, 50 cents a reusable mailing box that will hold one or two cars. Write to: Home of HOMIR, P.O. Box 47487, Doraville, Georgia 30340 for further info.

I've seen a preliminary copy of the NCC rules for HO racing. On my sheet Rule One reads as follows: "The bodies must be HO scale replicas of an actual car that competed in one of the various classes. Any obviously out-of-scale bodies will not be tolerated nor be allowed to compete in any NCC-sanctioned races. The classes will be so designed that all cars in that class will be proportionately scaled to one another."

O.K., so cars like the Mangusta and the Lamborghini are out since they were never race cars. But what exactly does "Any obviously out-of-scale bodies..." include? We all know the TycoPros are 1/64th scale. Is that "obvious" enough? Just what scale are we racing, anyway? HO is 1/87th. Most "HO" cars are too large for true HO scale. Seen the Kirby SuperBird, or better yet, the SuperBug lately? I thought that Aurora's VW was a bit too long, but this thing is both longer and (much) wider than Aurora's version. These two Kirby bodies are reportedly outlawed. How about cars proportionately scaled to one another? DCRP Mustangs are as wide as their Torinos, that is, a full 1 1/4". But Aurora's XL 500 is darn near scale, and Galaxies are wider than Torinos, but the Aurora Galaxie is nowhere near as wide as the DCRP Torino. It is not that Aurora's car is too narrow, the DCRP is "unproportionately" wide. So, maybe before we can make rules for our scale of racing, we should decide exactly what scale it is. Think about it.

Controllers, controllers, controllers. There's a new, or better, or updated version of one every time I turn around. When I did the thing on building up your own Parma controller, I didn't even know they offered a ready-to-run version. They do. It sells for \$12.98. For \$25 you can have a double micro, double wired

version. The next step is \$34.98. This one is all-custom type stuff on the double micro job. That is it, the top of the line Parma. Gorski offers his for \$24.95 (standard), \$29.95 (single micro, I think), and on up to \$50 for a custom-custom controller with everything (to go). Personally I stop around \$13. No Ho racer really NEEDS double micros and double wiring. For \$12.98, you get an excellent Parma controller. It *IS* a lot of money, but well worth it. Anything beyond this is extravagant, almost ridiculous even. So save your coins and get a good, inexpensive (comparatively speaking), dependable controller.

Aurora's releasing the '32 Ford Pickup brings all sorts of interesting ideas to mind. Their reason for using the Formula 1 chassis was, of course, to allow for the narrow body with fenders hanging off of it. If they can do this one, they can easily reproduce any body style of that era. A '32 Vicky or Ford sedan would be nice. Maybe a '33 Willys if the big front tires don't detract from its appearance. A Model "T" might be popular. You can probably think up a few of your own. A letter to Aurora might help them decide. By the way, I assume that F1 parts will be available separately. They have not been up until now. How can Aurora produce a car and no replacement parts?

New Tuff Ones with purple-poled rewinds? Yes! I didn't believe it either. Does this mean Jim Russell has gone psychedelic? And the idler gear is now back to brass, but both it and the driven gear have "trenches" cut in them for lightness. The groove starts out near the teeth and comes in to within a sixteenth of an inch of the hole.

We've been hearing more rumors lately... Kirby to release a flood of clear bodies... Aurora to make SS 396 Chevelle Coupe... Dynamic to be considering an entire HO car. (?)... Aurora to have more Tuff Ones... there is a conflict going between the people who think the NCC should have an HO class and those who don't. HOPRA, get ready!

Last month, when I told you about the new slot racing newspaper that was coming on the scene ("Miniature Auto Racing"), I was enthusiastic. Now that I've seen the first copy I'm wild about the thing! It's so big it's ridiculous (for just 35¢, too!) and of course, it's all hard-core slot racing, through and through. You can get your subscription by sending \$1.00 for three months; \$2.00 for six months, or \$4.00 for a full year (it's a monthly paper). Send to Pacific Publishing Group, P.O. Box 1821, Thousand Oaks, Calif. 91360. It's a must.



## Mark Waters was a chain smoker. Wonder who'll get his office?

Mark kept hearing the same thing everyone does about lung cancer but kept on smoking cigarettes. Probably thought: "been smoking all my life...won't help to stop."

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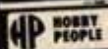
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# THE TECH SHEET

A few months ago I wrote up an evaluation of the Corbomite H.O. car. The car I tested was a prototype, and like most prototypes it had a few drawbacks. The first production models of the Corbomite still had the old-style Mabuchi motor reminiscent of the old Atlas H.O. cars. Now a newer version of the Corbomite car is out with a Tyco-type Mabuchi and an extra set of sponge tires, in addition to the standard silicon rear tires included. Now you have a choice of rear tires, a faster motor, a revised pickup brush assembly, and all at the same old four dollar price!

Holding the price line I'm in favor of, and tell me of another industry that offers more quality or better products and still keeps the same price and inflation. Even candy bars either get smaller for the same price or cost more for the regular size.

With the Tyco-type motor, naturally the Corbomite is faster, but there

are still a few problems such as the front tires coming off or the guide pin breaking. But let's face it, to get the best performance, we have to do some fiddling on every brand of H.O. car.

In the case of the Corbomite, you can epoxy the front tires on the hubs or simply replace the front wheels altogether. As for the guide pin, you can drill out the guide where the pin used to be and insert a small nail or "brad." The new pin works perfect and you can replace the pickup "shoes" with regular braid as used on 1/24th scale cars if you have difficulty making the car go around certain turns on your track. All things considered, the new Corbomite is a vast improvement over the first cars presented and there is nothing of major consequence to be reworked to get the car to really go. If you make the new guide pin (small nail) long enough so that it just clears the bottom of the track's slot, the car can really hang in the corners.

I haven't seen one yet but I understand that Rigger will soon have out a new H.O. car which fits their set-screw type wheels, and it is said to be a brass pan type of chassis using the Mabuchi H.O. motor. I'll have more information about this car next month and maybe a picture or two of some test data. The more brands of H.O. car the better!



"Think of it this way: one of our own, immortalized!"



Speaking of new cars (well, at least body styles and modifications), I see Tyco now has out a new cast metal droparm which is considerably heavier than the old plastic type and this new droparm eliminates adding lead weights to get the guide to stay in the slot. Tyco also has come out with additional new body styles. The Corvette, Porsche Carrera 908, a drag V.W. and the sweetest "Group 7 G.T." (a perfect McLaren M8B) you have ever laid your eyes on. The drag Volkswagon is a bit out of scale and misshapen, but when you look at some full-size V.W.'s around college campuses these days you'll find they look pretty outlandish too, so maybe Tyco's version of the V.W. isn't all that far out. I saw a V.W. the other day with an honest to goodness turret on top with fake (at least I hope they were fake!) machine guns sticking out the front. The car was complete with a big megaphone out the rear end like Tyco's car and big balooney tires all around. Boy, it was wild!

Body styles are a funny thing really. What appeals to one person might not appeal to someone else. As for myself, I dislike Chaparrals — all types — and the Iso Grifo and Lamborghini Mura I thought looked beautiful. But from what I can gather from trade sources, neither model was a good

seller. The Tyco Gp. 7 G.T. and Porsche appeal to me in a big way and I think they will appeal to a lot of other people as well, so on these cars at least we can agree.

Speaking of bodies, Jim Kirby is now doing some H.O. bodies in clear plastic that are 1-1/4 inches wide. The first one is the Autocoast Ti. 22 and a V.W., with the others to follow, like McLaren's etc. These bodies give a lot more freedom in chassis design and somehow they look more in proportion. The H.O.P.R.A. and H.O.C.C.I. organizations both allow 1-1/4" width so these Kirby bodies are an answer to their collective prayer.

This past week I got a sample of Mura's NEW H.O. rewind motor. It's a hot Mabuchi, really, with red wire and a clear plastic sleeve around the armature stack. That's the way to tell the difference from the older Mura's with the gold wire and red endbell. The new Mura's are faster and get this, cheaper (\$2.50 instead of \$4.00) than the previous motors offered. The \$4.00 motor used to be balanced and epoxied, and got up to about 52,000 rpm no-load, free-running, on 18 volts. It had 250 turns, about like our No. 37 or No. 38 wire. The new motor has 150 turns, about like our No. 36 or No. 37 wire, and it gets up to 76 to 78,000 rpm free-running, drawing just

over .2 of an amp.

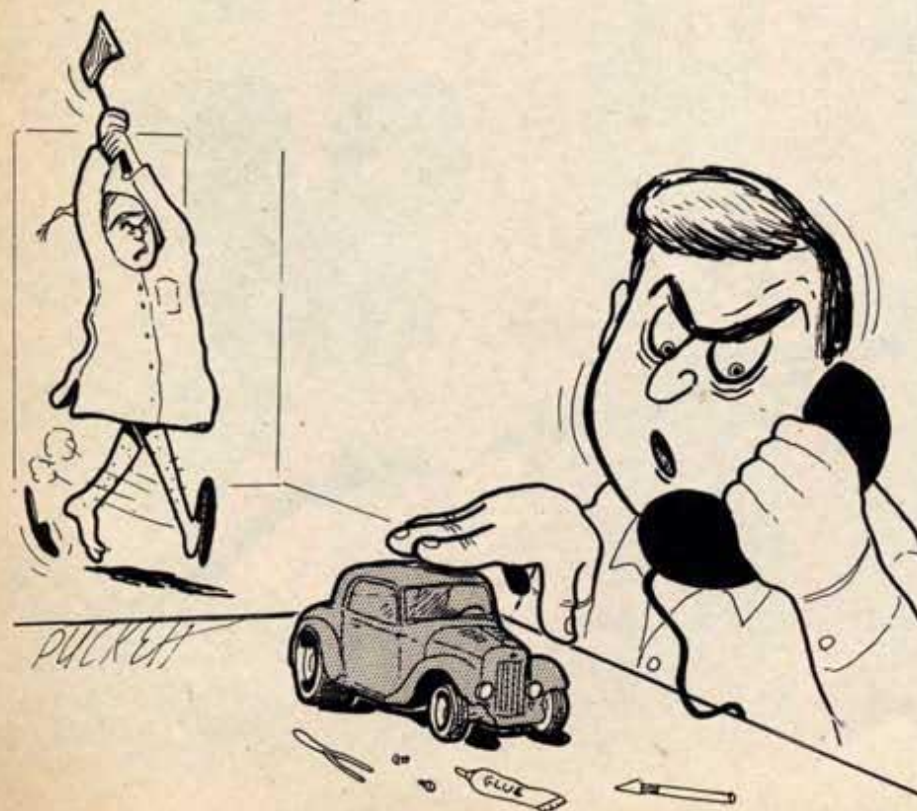
I put one of the new Mura's in a Tyco car and staged a matched race with a standard Tyco car. Down a 15 foot dragstrip the Mura powered car was faster by a couple of feet, and on the dyno it shows about four feet per second faster than a standard Tyco. But as I pointed out before, these dyno figures are somewhat misleading. In this instance the comparison of dyno figures correlates with track performance.

On test laps, the Mura motor doesn't heat up to any great extent and appears to be a good performer for tracks with long, long, l-o-n-g straight-aways. I imagine the plastic cover over the armature was provided to prevent the wires from being thrown off at the speed these little bombs go. As a factory solution to blown wires the plastic might be alright but that plastic is .005" or so thick so this adds up to a big air gap between the armature and the magnets so I would strongly recommend you disassemble the motor and remove the plastic shield and epoxy the wires. Then shim the magnets closer with strips of metal cut from a tin can. Wilhold's or Klinks slow-drying epoxy, cured under a heat lamp (hold armature about 6 to 10 inches away from bulb so armature doesn't get too hot), will work real well. Remember, we are working with a solderable medium temp wire insulation so we can't go over-board with the heat or you'll short out the wires. A little extra tension on the brush springs and you'll have a good long lasting, reliable, fast car and a car with brakes! The low end torque and brakes are lacking in the stock Mura "rewind" and shimming the magnets is definitely a necessity. The "new" Mura shows 4-1/2 ohms against 12-1/2 or 13 ohms for Tyco's or the old four dollar Mura.

Before even running the motor I'd recommend that you epoxy and shim the magnets. You can statically balance the armature with a set of razor blades or use the Tradeship balancer with a dime-store bubble level gadget.

The balancing for H.O. armatures is so critical that I'm not at all sure it's so necessary for ordinary use. I'd better clarify that last statement before I am misquoted.

The Mabuchi motor is very dynamically out of balance and if you compare it to 16D armatures percentage-wise, the 16D armature would be totally unacceptable and probably tear itself apart or burn up with heat. On the H.O. armatures I've checked they can be 30 mg or more dynamically out of balance. With the total weight of the stock armature, at about two grams, that's a lot of unbalance. Static balanc-



"But Uncle Charlie promised to come help me chop my '32 coupe!"



# QUESTION SESSION

## RULES FOR QUESTION SESSION:

1. Submit all questions on a postcard or card stock, ONLY.
2. Use one postcard for one question only. (Postcard may be any size, if folded).
3. Type or print all information if possible.
4. Only those questions of general interest will be answered.
5. All reasonable questions will be answered in this column, but time negates the possibility of a personal reply.

**Q** I would like to know what type of H.O. tire is best, a silicone or a sponge tire? I would like to know if it would be possible to buy a copy of your January issue, if so how much? Also, how about another Ridgeroute? Keep up the good work.

Mark S. Holden  
Trumbull, Conn.

**A** I prefer a silicone tire for plastic track and spongies for a particle board track. Some people prefer to slide around a corner with spongies, but you will have too much wheelspin if you're running the TycoPros. Funny you should mention Ridgeroute. I got the go ahead today from Ye Olde Editor to build a high-speed oval, as well as adding an extension to Ridgeroute. The original Ridgeroute has one short blind section on the back straight that prevents it from receiving HOCCI sanction. The new section will be two feet squared and will eliminate the blind spot.

**Q** In your article on "Ridgeroute Raceway" you mentioned HO stone wall and a Dunlop observation tower. Can you please tell me where they can be obtained? I checked Auto World, but they don't have them.

Dale Wallace  
Hammond, Indiana

**A** The Dunlop tower is made by Faller and can be found in most model train shops. Ditto on the HO scale stone wall.

**Q** What is the best ohm rating on a controller to use with the Tyco-pro? Is there any advantage in using silicone tires over sponge? How come you never see an 8-lane track built with Aurora track? Is there some major disadvantage to doing it that way?

Ralph Beck  
Bowling Green, Ky

**A** I've found the best controller to be about 45 to 60 ohms. The silicones are

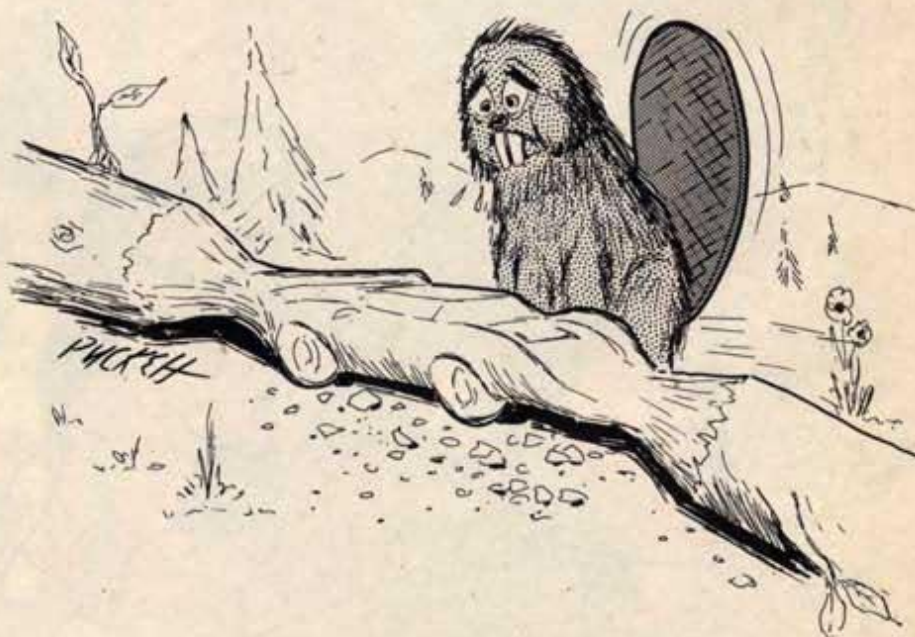
concentric as they come from the factory, while sponges are often oval-shaped. The silicone tires will give you better traction on a plastic track but sponges get the nod on a routed particle track. The main reason I'm not building an 8-lane track is the cost. (Besides, I've only got two friends.) The third reason is space. An 8-lane track takes a lot of room compared to one or two lanes.

**Q** I like to use all the parts of a model. Do you know of any way I can build the "Awesome Austin" and use all the parts to the Austin, Mustang and Empi Imp?

Carter Rise  
Memphis, Tenn

**A** That's easy Carter! You can use the lift-over injectors from the Austin on the Mustang engine. The mag wheels from the Austin will work on the Imp to make it a wild street machine.

**Q** I would like to know where I can get a 1969 Mustang like the one pictured on page 28 of the July 1970 issue (Uncle Oscar's HO scrapbook)





and also an HO scale Javlin (any year).

George Hamer  
Fargo, N. Dak

**A** The '69 Mustang is made in HO scale by Lindberg in their Mini-Lindy series, and by Eldon in their "Match-kit" series. No one makes an HO scale Javelin, but Tyco, Aurora and Mini-Lindy have the AMX which could be lengthened by combining two bodies.

**Q** About five years ago I received a boat kit and threw away the box for it. I think it was a Revell Kit. It was a drag boat (and it wasn't the "Hull Raiser"). If you could please tell me the name of this kit, I'd sure appreciate it. If you can't I'll have to bug Revell.

Jim Brown  
Sask, Canada

**A** Take good care of that kit, Jim. The boat you have is Revell's No. H-1278 "Go and Show Drag Boat." IT IS the finest kit ever made of an SK drag boat. The boat would be an attractive addition to a car display.

**Q** I have a Tyco-Pro car. When I press the control down all the way, the car doesn't move, but when I lift it up half

way the car goes. What is wrong?

Vincent Nicotra  
Syracuse, New York

**A** Don't blame the Tyco-pro car. The problem is in the controller. If you had mentioned the brand or type of controller it would have helped. What's happening is, you are passing into a dead spot on the controller. On resistor types, it may be a burned out wire on the resistor or a dirty wiper.

**Q** Where can I find (buy, trade, steal, etc.) a 1964 Buick Riviera. Auto World doesn't have any listed. I would appreciate your help.

Gary West  
1031 N. Forest  
Springfield, Mo

**A** Maybe one of our readers can help you, Gary.

**Q** Where can I find a driver with a flame suit that looks real? I've looked everywhere. Can you help me? (Besides Monogram's dollar dragster).

G. Verstine  
Cleveland, Ohio

**A** I wish I could help you, Greg, but to my knowledge there are no current driver figures available that have a fire suit and gas mask. Maybe a few letters to the manufacturers will change this. If anyone knows of such a driver, please let us know about it.

**Q** I just bought a 1970 Barracuda, and I want to know which model to get that has a funny car chassis that will fit the body.

Jeff Curran  
Chicago, Ill.

**A** Any funny car chassis can be modified very easily to fit the 'Cuda but the Ramchargers '70 Dart would be the best bet.

**Q** I have noticed that in past issues of MCS your models have had detailed tires. How do you do it? Everytime I try to paint over the raised letters I make a mess of the tire. This hurts the total appearance of the model, too. I would appreciate if you'd advise me on this.

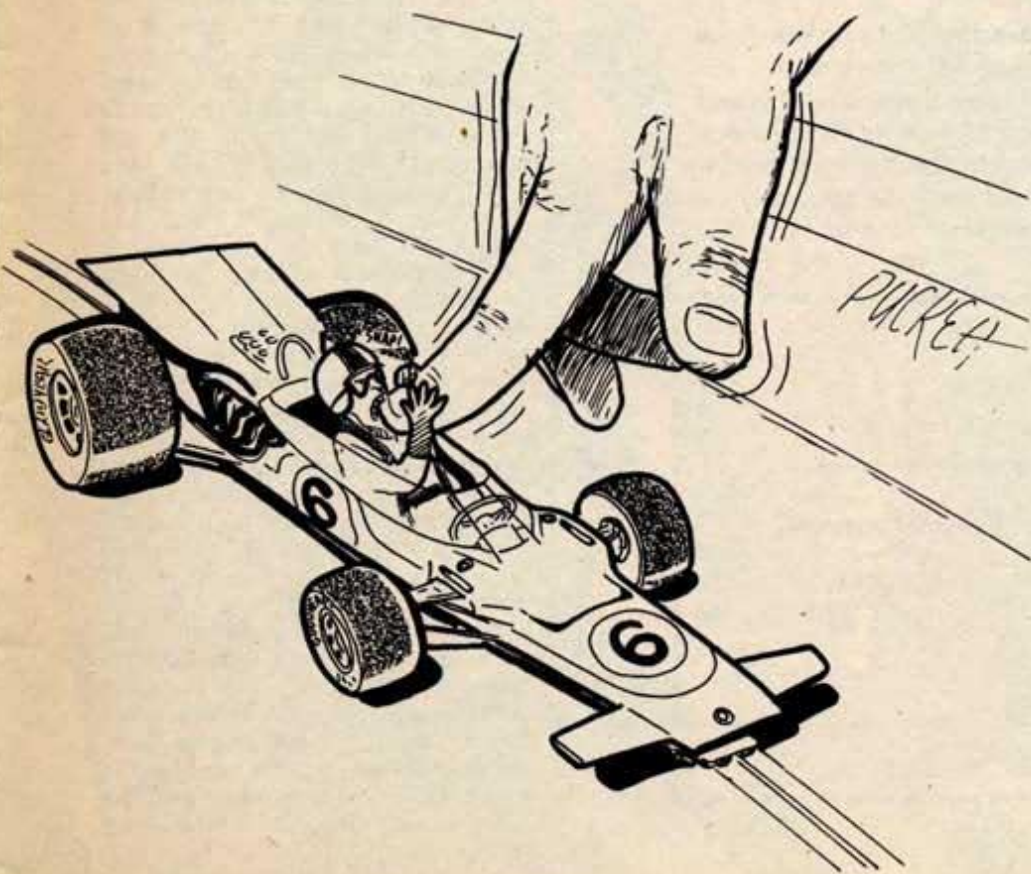
Daniel Flanagan  
Roslindale, Mass

**A** Dump a small amount of Testor's flat white paint on a piece of scrap plastic and allow it to become tacky. Next dip a No. 0000 brush in the paint. Wipe off most of the paint, then lightly brush the surface of the letters. This technique is called "Dry-Brushing." Allow several hours for the paint to dry before you touch them. Sometimes, I cheat by using white plastic tires painted flat black. Here all you have to do is scrape the paint off the letters with a knife.

**Q** Where can I get a 1/24 or 1/25 scale 1960 Chevy Impala? Also, where could I get a separate Chevy 283 V-8 engine?

Kirk Beyer  
Box 414  
Volga, S. Dak 57071

**A** The only '60 Impala model that I know of was made ten years ago by AMT. Your chances of finding the car are slim, at best. Ditto on the 283 Chevy engine. Revell had one that retailed for 69¢ and you may be lucky enough to find one still in a store. If any of you out there can help Kirk, drop him a line.





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ing does not cure the unbalanced condition because the unbalance is actually 180 degrees apart. So looking at the H.O. Mabuchi realistically, although it is unbalanced, it doesn't seem to cause enough heat or other problems when rewound to bother us. The armature being as small as it is, and unbalance weights being in mg, it can only be corrected on the most sensitive balancers and not all 16D balancers now in use commercially are capable of balancing the H.O. arms, so at least for now we might as well content ourselves with unbalanced motors. So right now balancing is not all that necessary and this goes back to my original statement of its not causing problems. So why worry?

Now for all my readers who feel I've been neglecting the 1/24th scale equipment I did a little homework for you. I tested out the new Mura long stack (.525" long) single 23 and single 24 armatures in ball bearing cans. The ball bearings are Class 7 shielded and flange - real beauties - and it does make a big difference in the smoothness of a motor. On the samples I have, Mura has a better shaft and a nice press fit between the armature shaft and ball bearing as there should be. With the long stack and Mura new M U 6 magnets, I found it had gobs of low end torque on the King track and this is the one track you need all the low end you can get. I dropped the gear ratio to get more top end speed down the straight. That's the kind of torque it has. With the usual 7 - 34 gearing it's all "punch" and then wound-out half way down the straight. By then the other cars just breeze by. I tried 8 - 34 and 8 - 33 to get more top end and that did the trick. The single 23 required the magnets to be shimmed a bit closer than usual in order to get a bit more brakes, but my test driver, Don Amedo doesn't like too much brakes anyway so I had to take a small shim out just to satisfy him. Don drives slot cars about the way he drives his Mini Copper S - either all out floorboarded or parked at the curb. There is no in between. On this test car I balanced a set of Rigen tires and wheels and tried the Mura 3/32 ball bearings (Class 7 also). For the single 24 long stack motor I used the same type of ball bearing can but used Stube's gray tires and 3/32 wheels and Parma Class 7 3/32 ball bearings. Both setups are good and I can't fault either car. Both thousandths type with the one side cut open and relieved center section.

One other new item appeared last





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week and it was the new set up for Parma's double micro controllers. Now both the power and brake micro are on the same plate in the handle section and the brake micro is the same as the power micro (15 amps rating) instead of the previous five amp brake micro Parma used to use. The 25 dollar price is the same as always, but for those who say that's too much money, just stop and think of the quality workmanship and *TIME* that goes into making one of these units and you'll change your tune. Try it some time — take all the parts necessary to build a comparable controller using six lead wires of 13 gauge, double micros, heat sink and see how long it takes you to build it. You're going to be shocked at the time consumed — I know because I've built up a number of controllers.

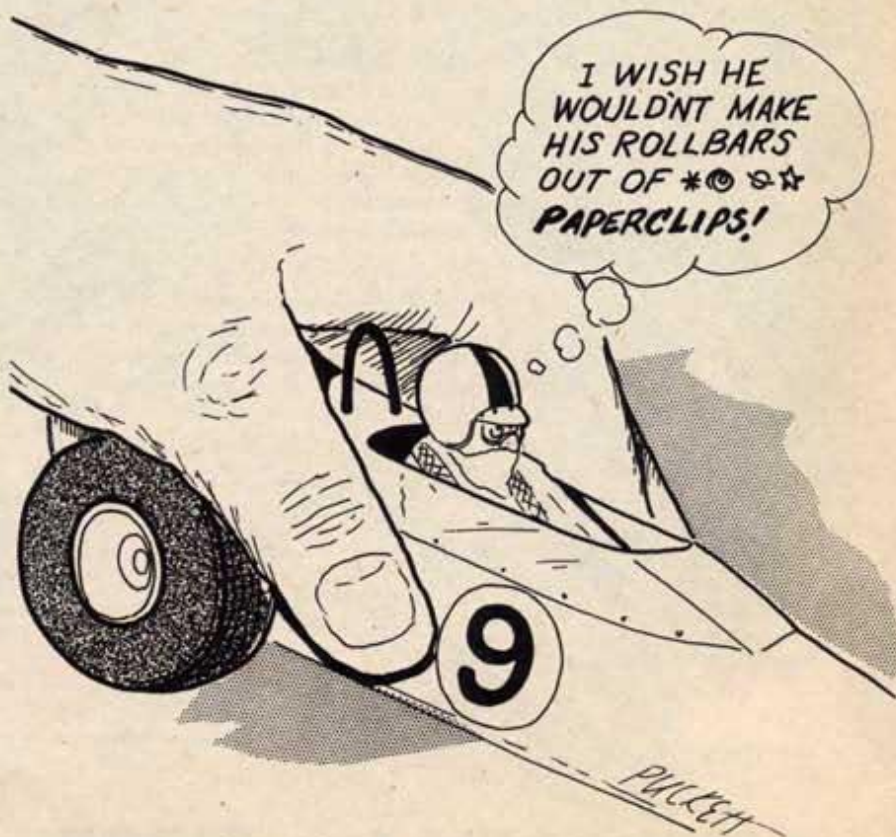
Next stop to consider the expense of tooling for all the parts and the cost of materials like Parma's lead wire (the best darn wire you can buy and made up special for Parma) and the time and expense involved in hand winding each resistor to maintain precision. The resistors are so good John Gorski and Joe Sullivan of Dart use them to make their controllers.

Maybe slot racing is expensive but look at the other side of the coin for a

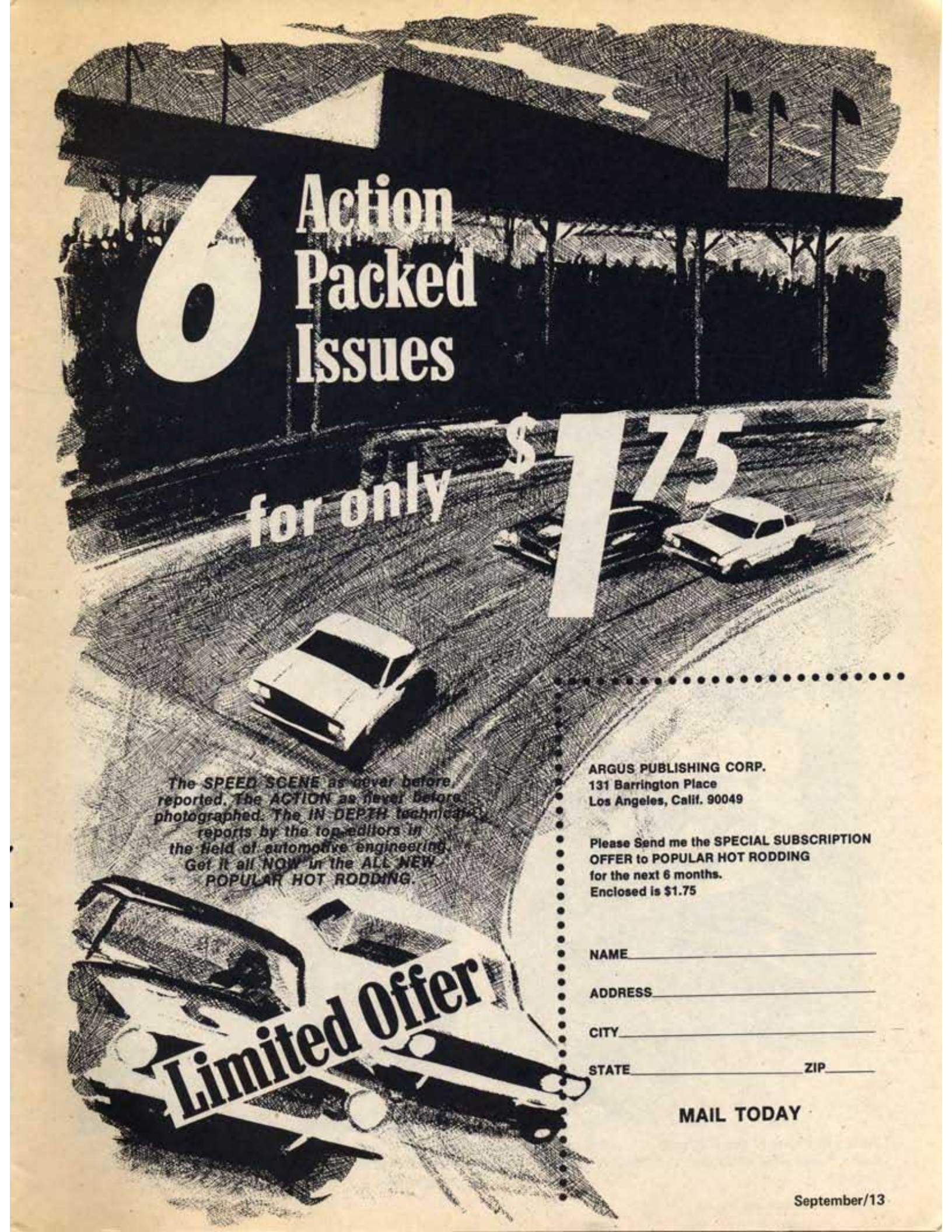
minute. A year or so ago a Parma controller cost 25 dollars, but since then better lead wire has been added and now double lead wire is standard equipment, a heat sink has been added, larger capacity double micro provided and a host of other changes and still *no increase in price*.

You don't buy a new controller every day of the week so if you're buying quality products the price doesn't look too steep. I use Parma controllers even on my H.O. track simply because they have the least internal resistance of the controllers now on the market. That's another way of saying I can get more volts to my H.O. motors and therefore they go faster. Sometimes I install power brakes with a couple of flashlight batteries and the Parma makes a quick hook up possible by clipping the brake wire to the battery box instead of its normal brake position on the track.

I suppose the same things said about Parma quality and time involved applies to Gorski and Dart controllers but to be honest with you, I've never tried either brand. You see, I'm just like you — I can't afford a fist full of controllers — just a couple of really good ones will last me a lifetime.







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14/Model Car Science



The AMT "Jimbo" hardtop won't be needed. You can even trim away the molded-in front quarter windows with a sharp knife.



Modifying AMT's four-wheel drive GMC  
into an off-road racer

# Baja Jimbo

By Bill Wright

The 1970 Baja 100 is being run across the Mexican brush about the same time our presses are running off this issue. Judging from the entry list, however, the four-wheel drive mini-trucks stand almost as good a chance of setting a new record up and down the Baja Peninsula as did last year's winner. The super traction that is available from power at all four wheels is a real boon in the often-bottomless sand of Mexico and the other off-road events.

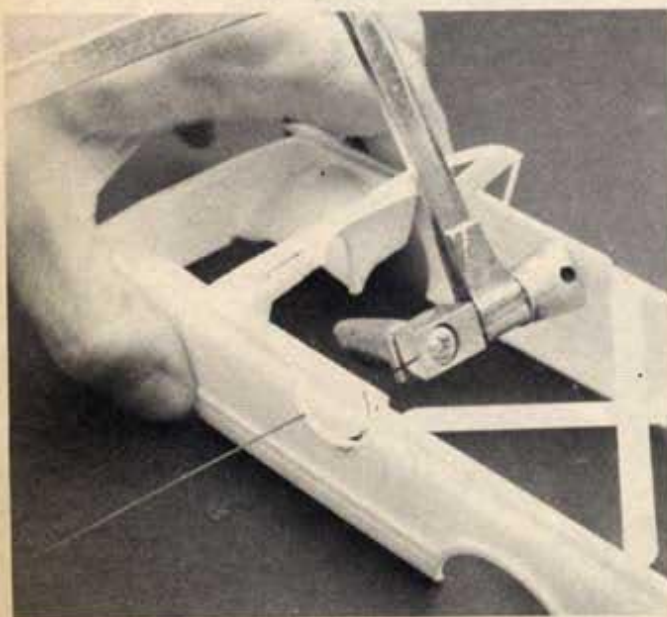
We don't intend to get involved in another of the off-roaders' arguments over the best cross-country vehicle, motorcycle, rear-engined dune buggy, or four-wheel drive mini-truck, but so far the four-wheelers hold the record. If there is any one reason for the four-wheel drive vehicle's spectacular performance it is preparation for off-road racing.

The four-wheel drive mini-trucks, like this GMC, start with a tremendous advantage over other types of off-road vehicles — the four-wheelers were designed to be driven off the road right from the factory drawing board. There's plenty of ground clearance — the mini-trucks are relatively

lightweight — and the whole thing has been proven by various Jeep-type vehicles in the African deserts of World War II. You can order a nearly race-ready GMC truck right from your local dealer. Low gear ratios, wide rims and tires, stiff suspensions and super shock absorbers, roll cages, shock absorbing seats, and bags and bags of V-8 power are all on the order blank.

The AMT "Jimbo" kit for the GMC off-road mini-truck has optional parts that duplicate the majority of options the GMC factory offers on the full-size vehicle. Wide tires, a fuel-injected 350 cubic inch engine, a removable hardtop, and a drop down tail gate are all included in the AMT kit. We added even wider tires and a NASCAR-style rollcage from the AMT "Torino Cobra" kit to more closely approximate the equipment the successful off-road four-wheelers are running. We also cut down the doors on our model to give some elbow room for the driver to gain more leverage for tough off-road steering shocks.

In adding the much-needed aircleaner equipment to our model, we discovered a product which should be a "must" in any model car builder's box of detailing items. "Flex Straws" make perfect 1/25 scale duplicates of the aircraft duct hose that all types of race car builders use to duct cooling and/or fresh air to air cleaners, carburetors, brakes, radiators, differentials, and even to the hot cockpit area. The straws are plastic so they can be cut and glued. The flex part of each straw is only about two-inches long, but a number of flexible portions can be glued end to end to make a flexible (it really is!) duct for any part of the car. Dirt and dust are one of the most formidable foes of the off-road racer. On many racers the aircleaner is mounted inside the cockpit where there is a minimum of dust. Even then, a stock air cleaner element must be changed about eight times in a race like the Baja 1000. Most drivers are using special heavy-duty air cleaner elements, but they are still mounted somewhere in the cockpit area. We used the flex straw just like the full size car builders use aircraft duct hose — to mount the aircleaner on the rollcage inside the cockpit of our "Baja Jimbo."

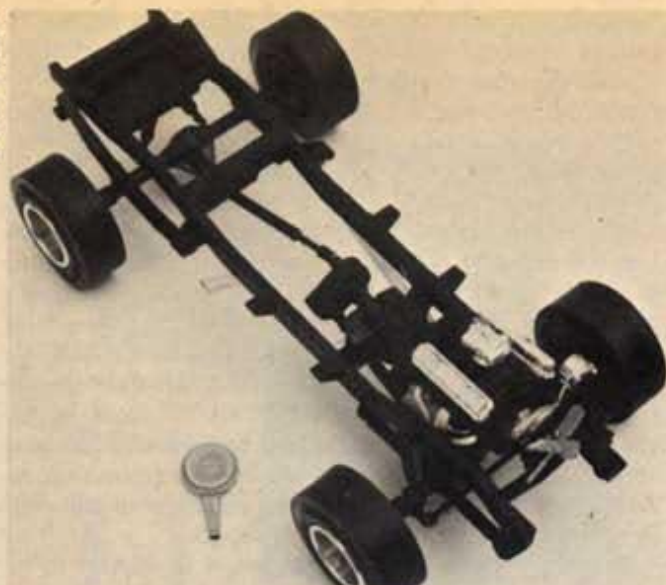


The sides of each door are cut down to give the driver more off-road elbow room. Make a pattern of cut line. Cut with jeweler's saw or thin jig saw blade.

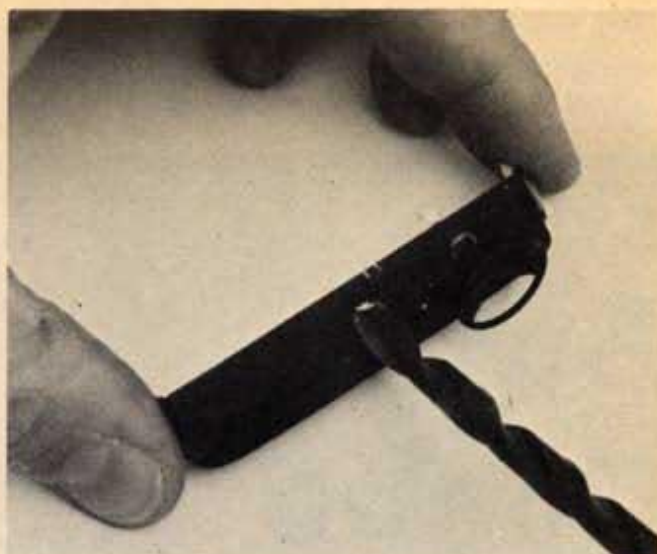


Shape door rests from thin aluminum cans, sheet plastic, or cardboard, and glue one over each door cutout.

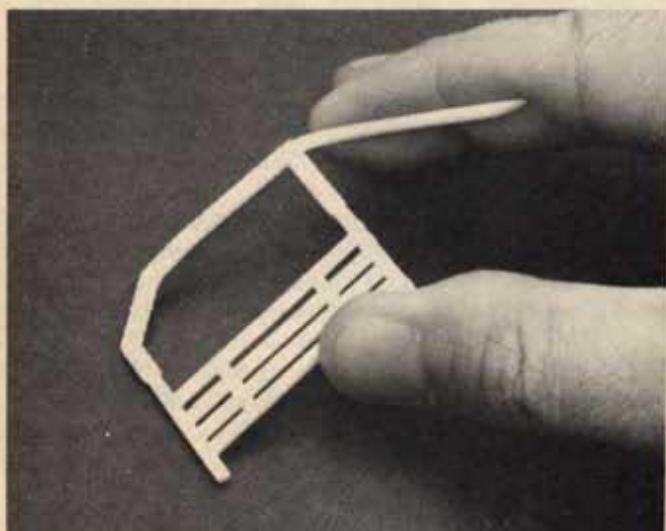




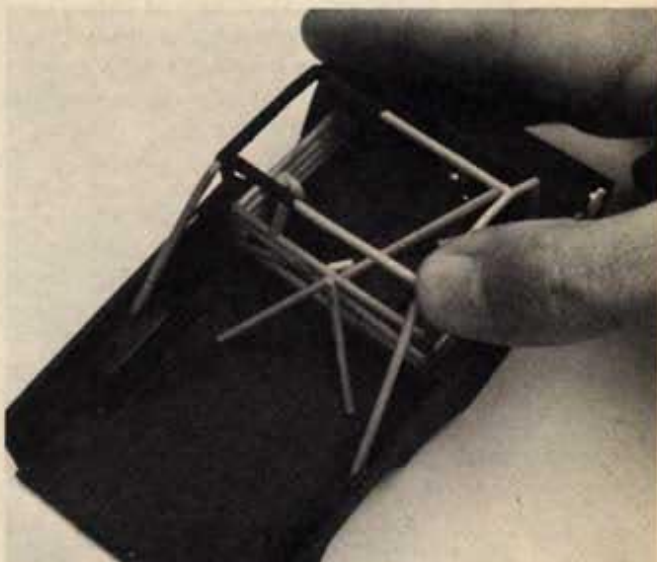
Larger and wider tires are fitted from the AMT "Fairlane Torino Cobra" kit. The rest of chassis and engine are stock.



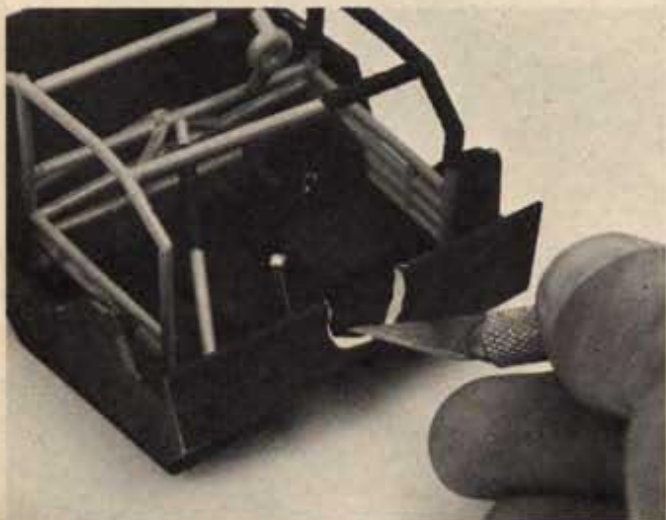
Drill a 1/4" hole through the center of the dashboard unit. Aircleaner duct will be routed through it on way to rollcage.



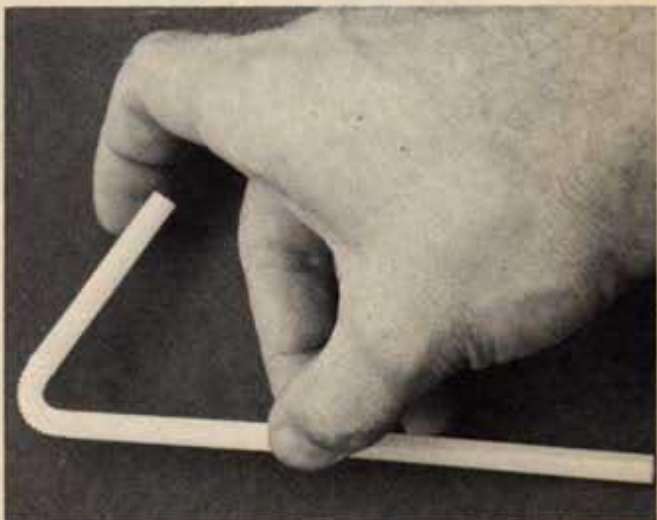
Bend rear braces of each rollcage half down about 1/2" before assembly. Fit rollcage to interior of "Jimbo," then glue.



Bracing on NASCAR-style rollcage is very close to that needed to protect occupants of an "open" car.

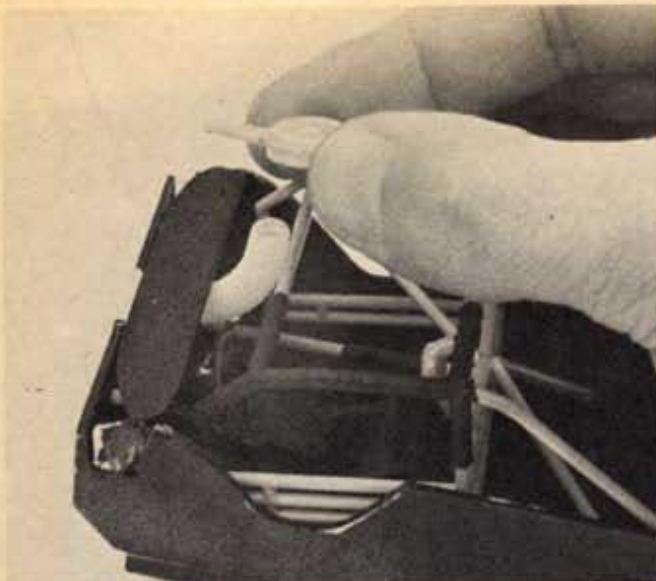


Trim a 3/8" semi-circle opening in the top edge of the firewall; again, to provide clearance for the aircleaner ducting.

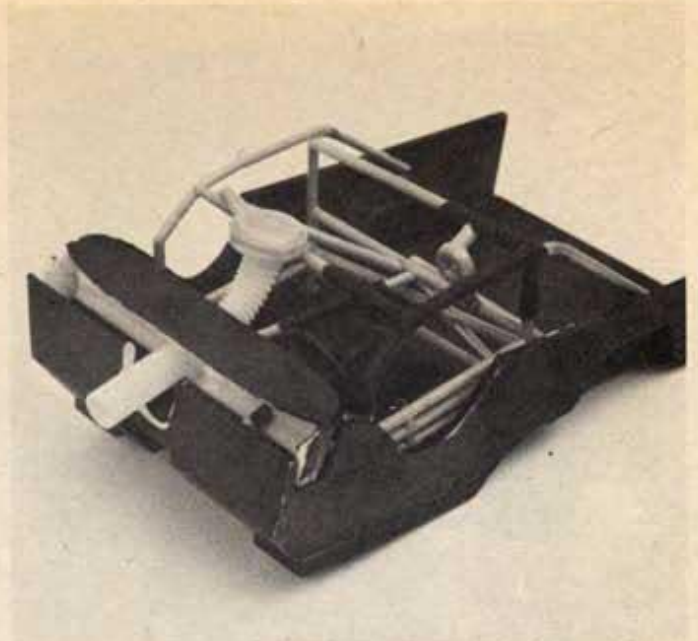


"Flex-Straws" are available in most supermarkets for less than 50¢ a package. The corrugated area allows straw to bend.



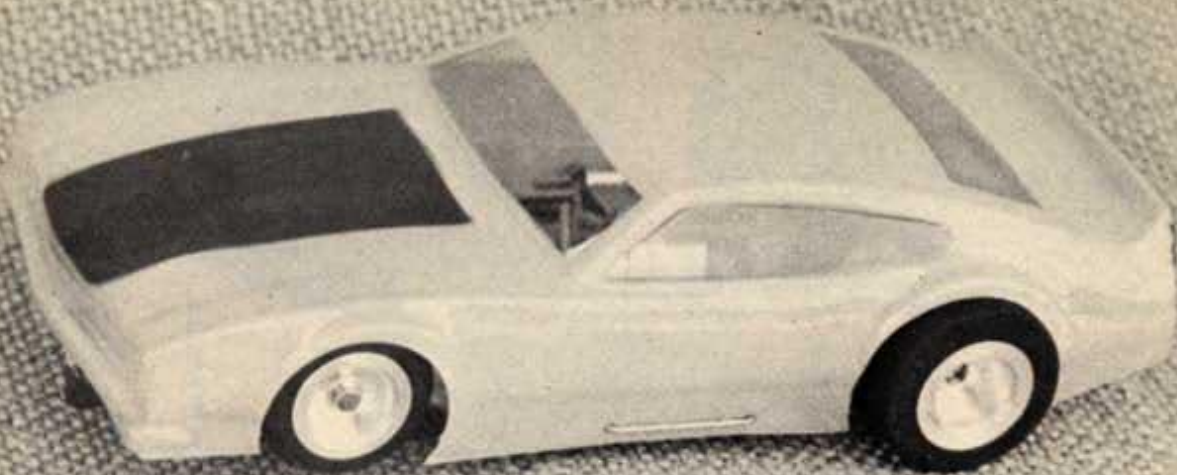


Cut off the corrugated portion of the "Flex-Straw" and about an inch of the straight part. Glue aircleaner to top.



Most off-road four-wheel drive vehicles have aircleaners mounted in the cockpit area; connected to engine through flexible aircraft duct hose that looks just like our "Flex-Straw." Brake cooling and radiator ducts could be made from these plastic straws as well.





*Rigger's No.270(G) Maverick Grabber goes for \$6.95, one buck more than the standard No.270 Maverick, the extra dollar being for the tricky paint job and wider rear tires and wheels. It's hard to imagine a better bargain than this car for that low, low price tag.*



# "Groovy Grabber"

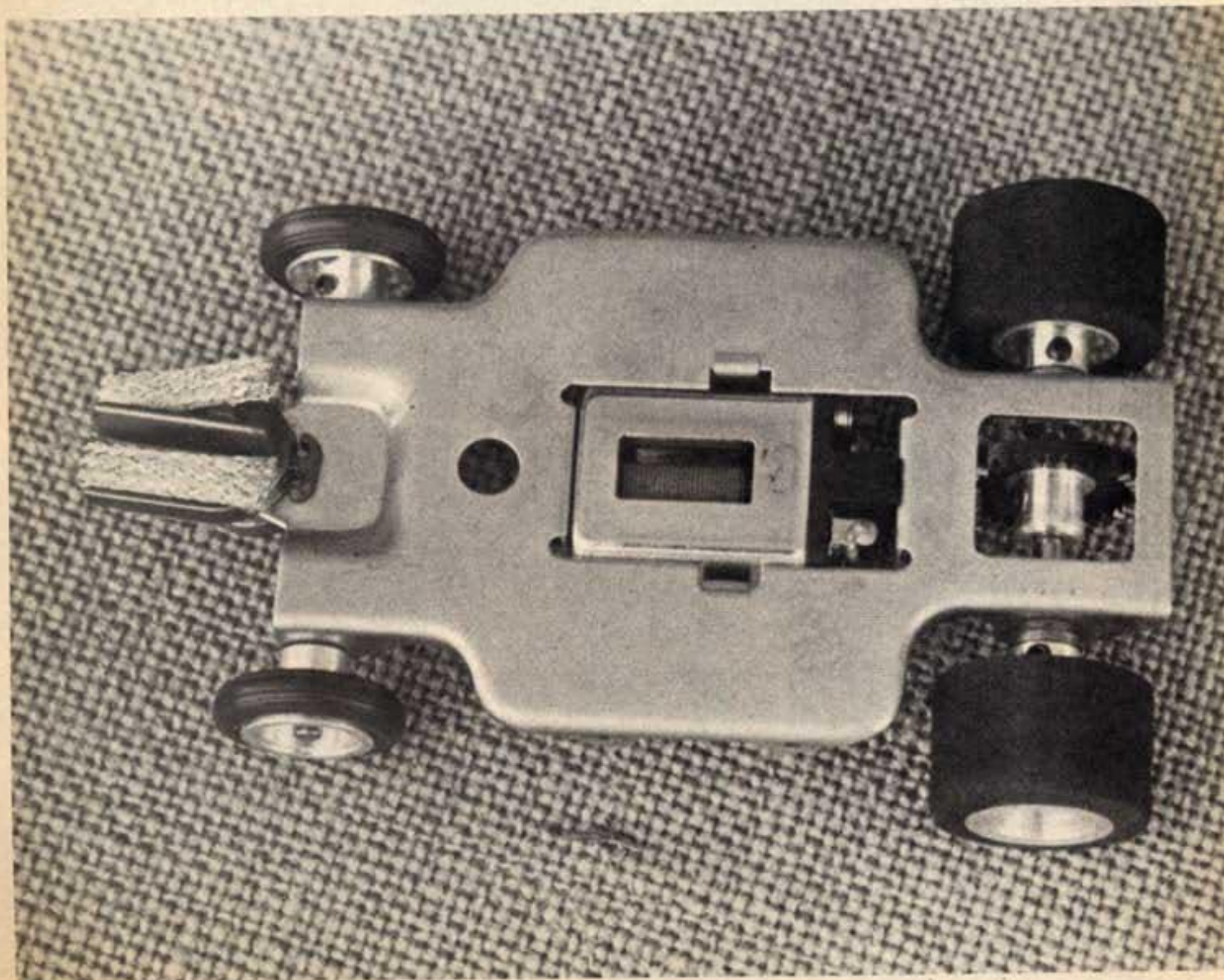
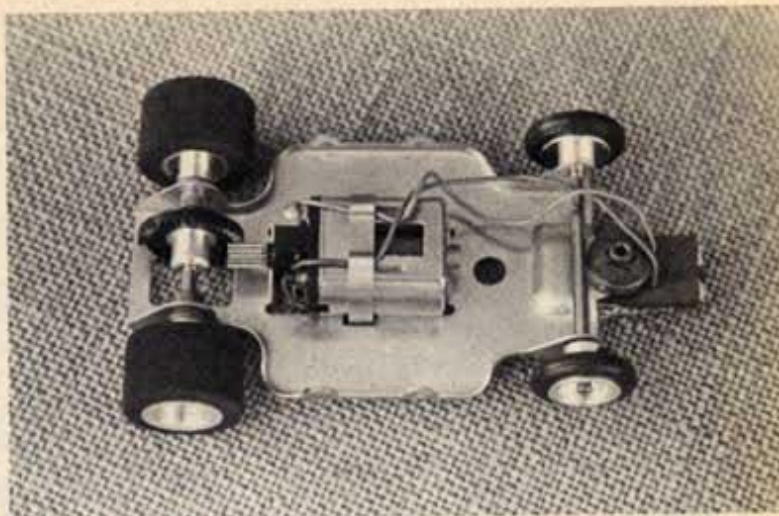
Riggen has a real winner in this sarcastic looking 1/32 scale Maverick !

Riggen Manufacturing Company, known far and wide as builders of high quality, low priced slot racing equipment, has done it again with a tricky-looking car that we know you'll want to add to your stable — the Maverick, and Maverick "Grabber."

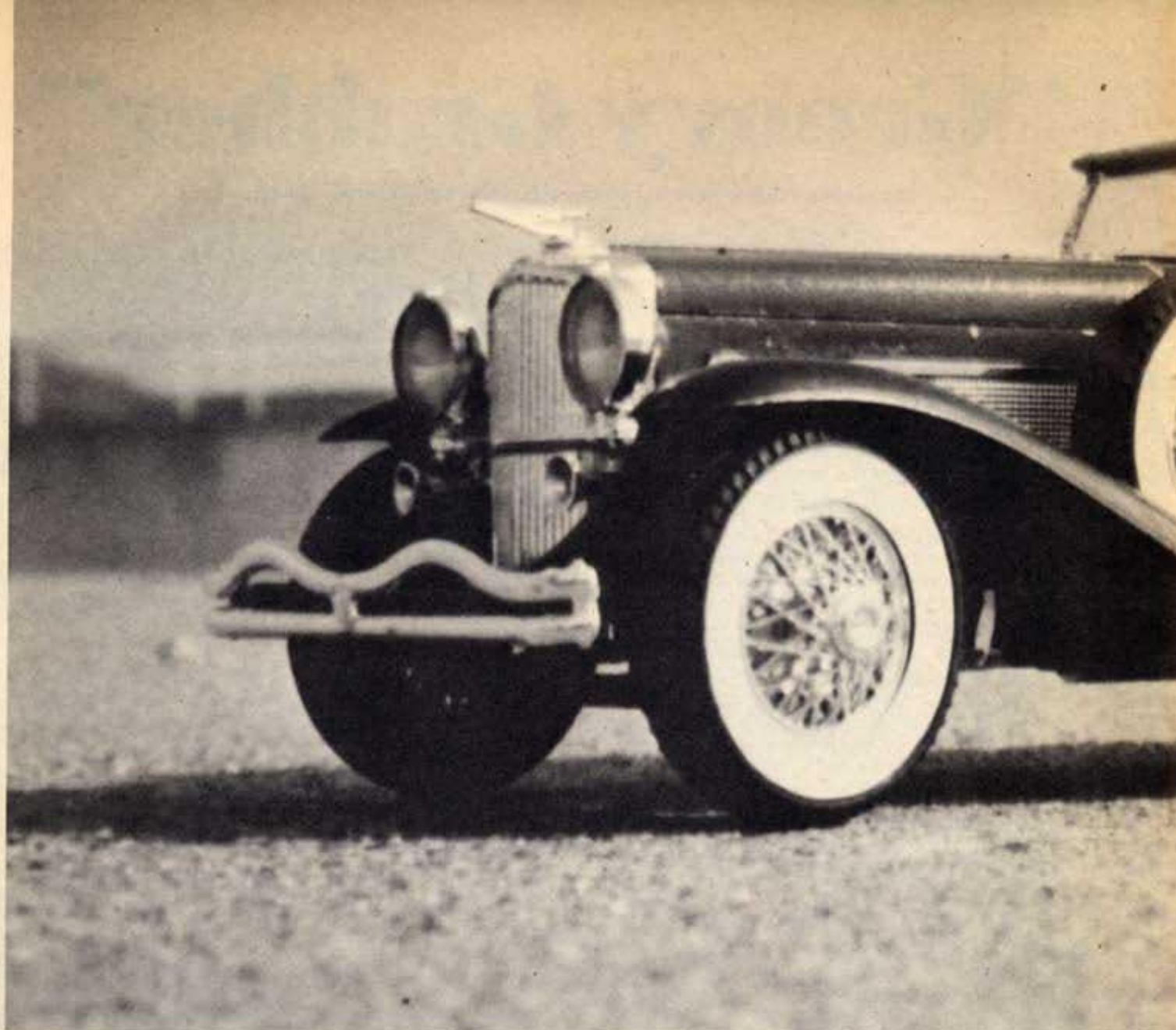
You've seen the brass pan chassis before, under the other Riggen home racers, but the body is brand new. Riggen has put the same wild paint job on their 1/32 scale Maverick that the big Grabber has.

This is a lot of car for the money. Check it out at your local hobby shop. If you can't find it, order from the various mail order houses that advertise in MCS.

*There's the heavy-duty brass pan chassis, complete with set-screw wheels and wide, sponge rubber tires. The axle is nearly unbendable. It's a fine handling machine for home tracks. If you need more power, order the Grabber in No. 328 (\$8.25), which will give you a ball bearing motor.*







## CLASSIC CORNER By Richard Marmo

The first in a new series of classic car articles.  
This time we're concentrating on  
Hubley's beautiful Duesenberg SJ.

The late twenties and early thirties saw the rise — and subsequent fall — of a number of cars that are now considered by most to be classics. One of the best known was the Duesenberg SJ.

Though the real thing now exists only in museums and in the garages of well-to-do collectors, you can still have a model of this famous classic. How? Well, known for its line of metal car kits, Hubley has offered a 1/18 scale Duesenberg SJ for the past several years. Although it shows its age by such things as large amounts of flash on both the metal and plastic parts, it's still an excellent kit.

Priced at \$10.00 when first placed on the market, the kit — unlike many others — has never increased in price. And

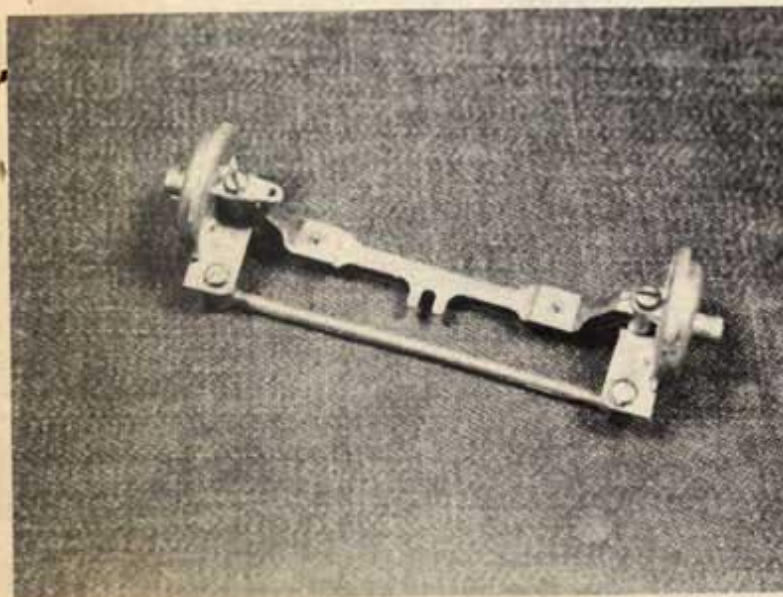
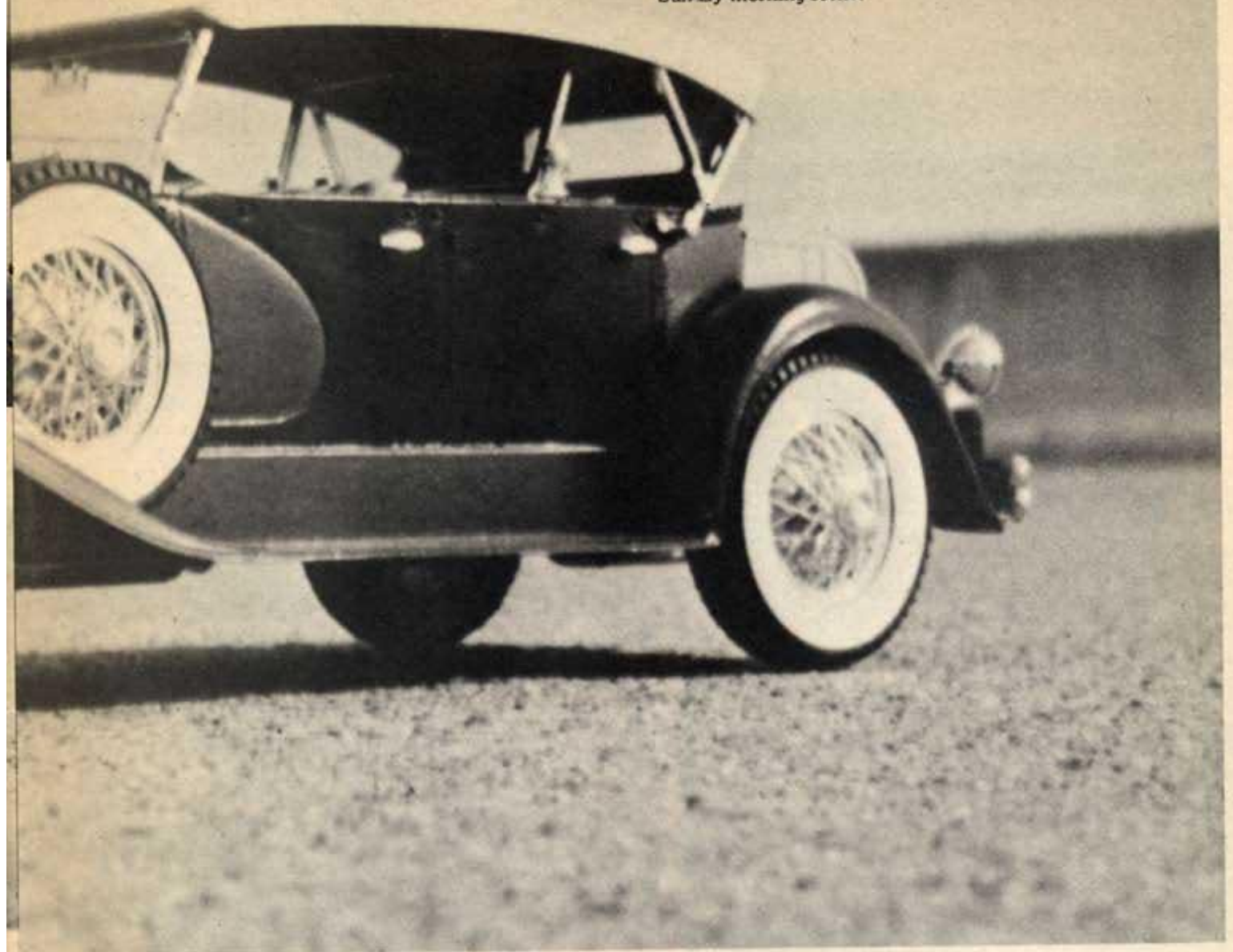
while still available, it simply cannot be found in some areas of the country. If this is your problem, the kit can be obtained from The Hobby Hub, 606 Seminary South, Ft. Worth, Texas 76115, at a cost of \$11.25. This includes postage and handling to any point in the continental United States and Canada.

The Imrie/Risley paint mentioned in the photo captions is available from The Squadron Shop, 23500 John R., Hazel Park, Michigan 48030, at 50 cents per bottle. Aron Alpha can be obtained from Kay's Rock & Hobby Shop, 6538 Meadowbrook, Ft. Worth, Texas 76112, for \$2.00, post-paid, in the continental United States and Canada.

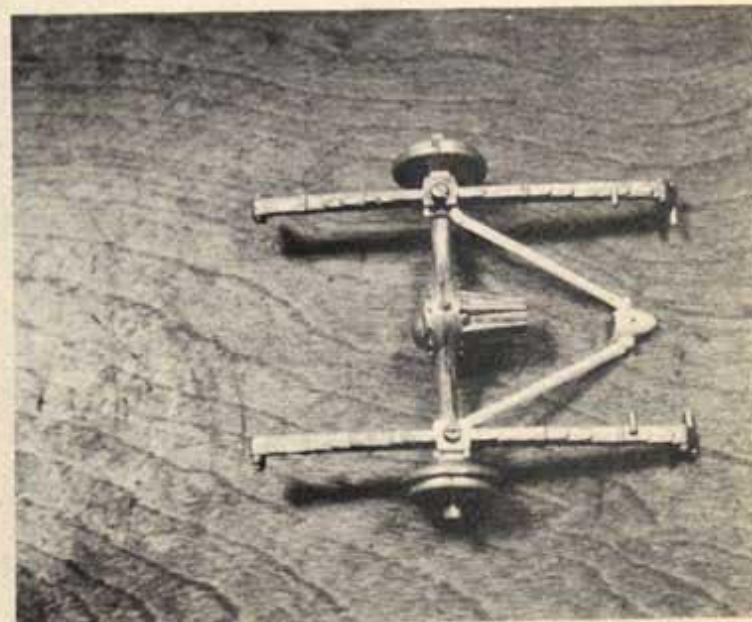
"What is Aron Alpha?" you ask. It's an ultrafast one-step adhesive. Clear in color, it dries hard in 45 SECONDS — somewhat longer if too much is used — to form a bond that is virtually unbreakable. It bonds literally anything to anything, with the sole exception of Teflon and Polyethylene. Though your \$2.00 only buys a 2-gram tube of it, used properly it goes a long way. However, there is one word of caution. Read the instructions first and then follow them. The last thing you want is to stick your fingers together with it!



*During the pre-depression days of 1929, this was a familiar Sunday morning scene.*

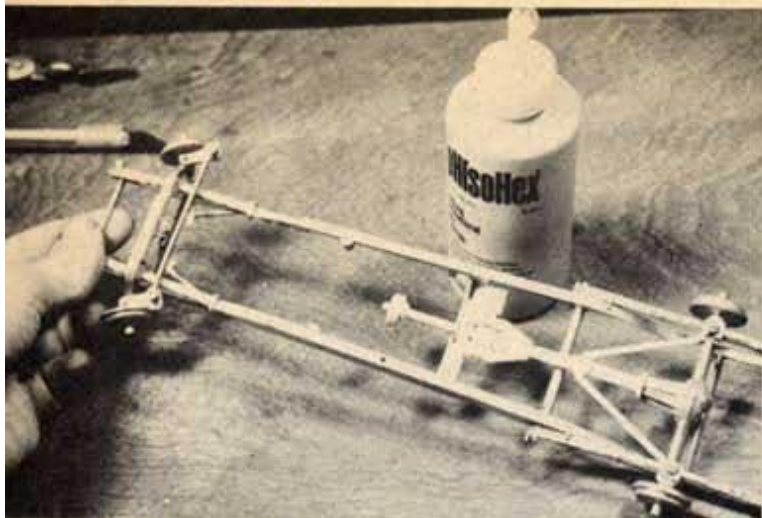


*To begin with, complete the front axle/steering assembly and set it aside temporarily.*



*Ditto for the rear axle/transmission.*





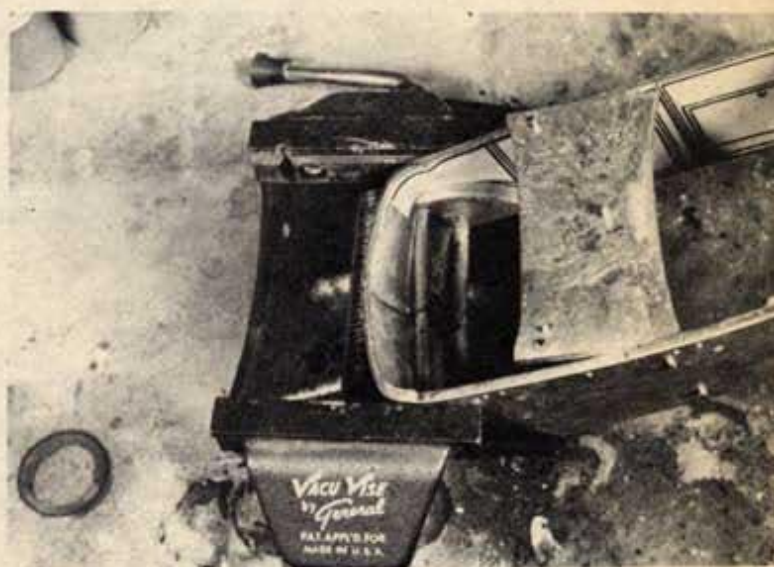
Both assemblies are now installed on the frame, along with the drive shaft. Incidentally, all of the screws will seat with less effort if you place a dab of pHisoHex — which can be found in most drugstores — in each screw hole.



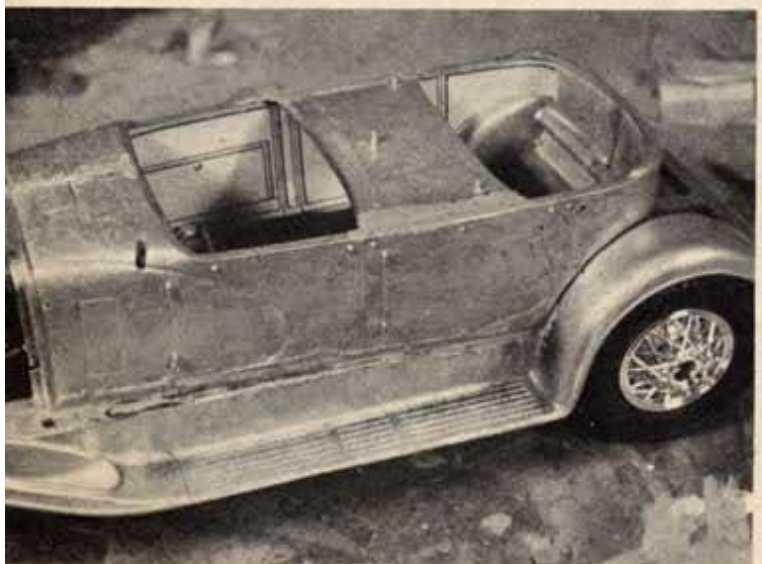
With the inner wheel halves and muffler/tailpipe installed, the chassis can be painted. Color information is not exactly abundant, so the illustrations on the kit box were used as a guide.



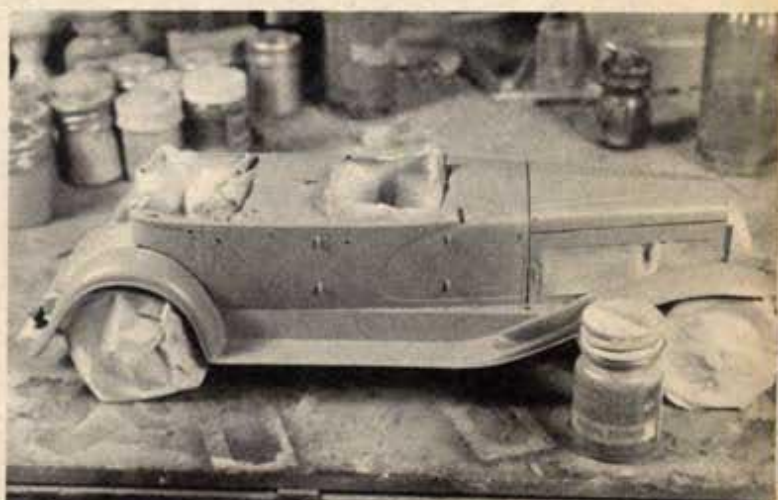
The engine, which is ready for installation here, was built exactly as the instructions say.



For a better job, the coachwork was glued with Aron Alpha and clamped in a Vacu Vise to dry.



After the coachwork is installed, all the seams can be filled with Squadron Green Putty, then sanded smooth.



With all major assembly finished, mask off the wheels, seats, engine compartment, underside of the fenders, and other related areas. Then spray the entire car with Imrie/Risley Metal Primer.





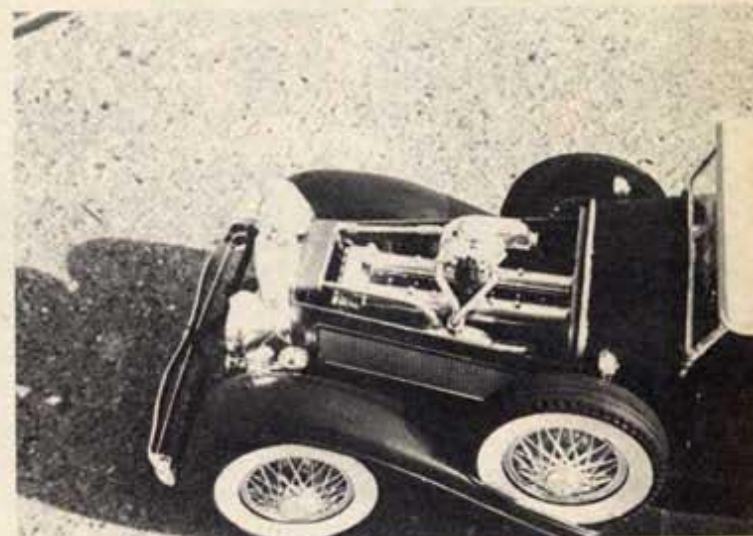
Metal Primer is followed with Imrie/Risley No. 15 Medium Green, which is masked according to the pattern on the box art, and the final color of Imrie/Risley No. 13 Dark Green is sprayed. The Dark Green should be darkened a bit more by adding a small amount of black to it.



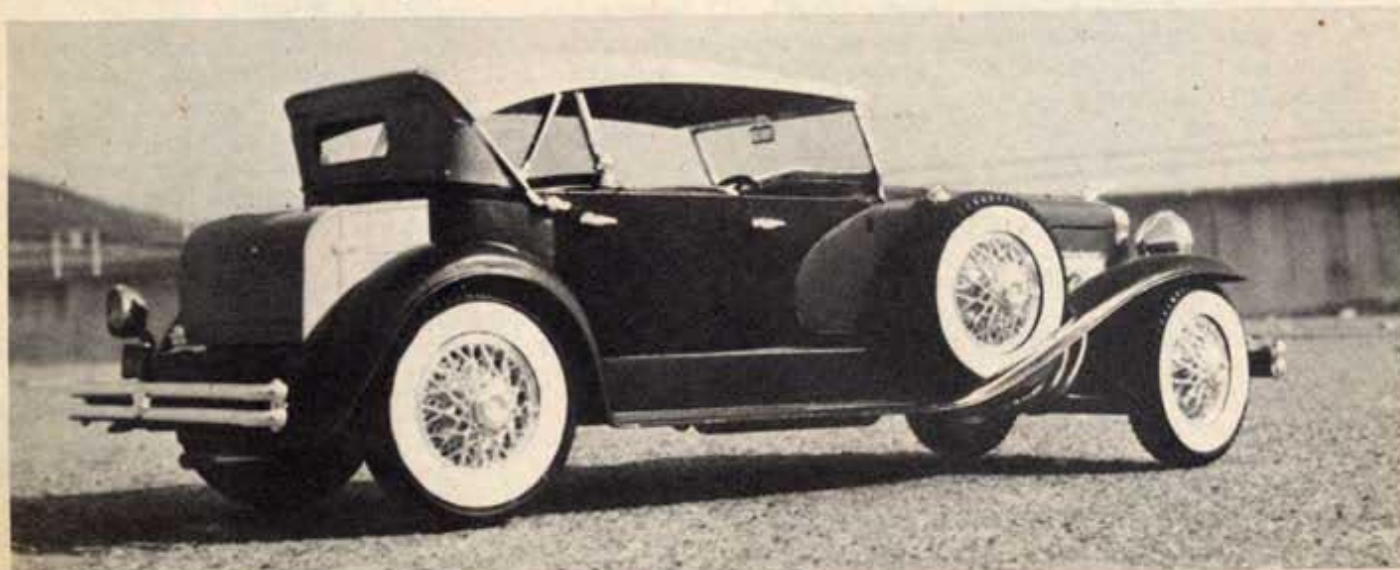
With the masking tape removed from the body, the last thing required before removing all the masking is to ..



...spray on a coat of Testor's Gloss Coat. This is needed because Imrie/Risley paint is matte finished while automotive finishes are - of course - high gloss.

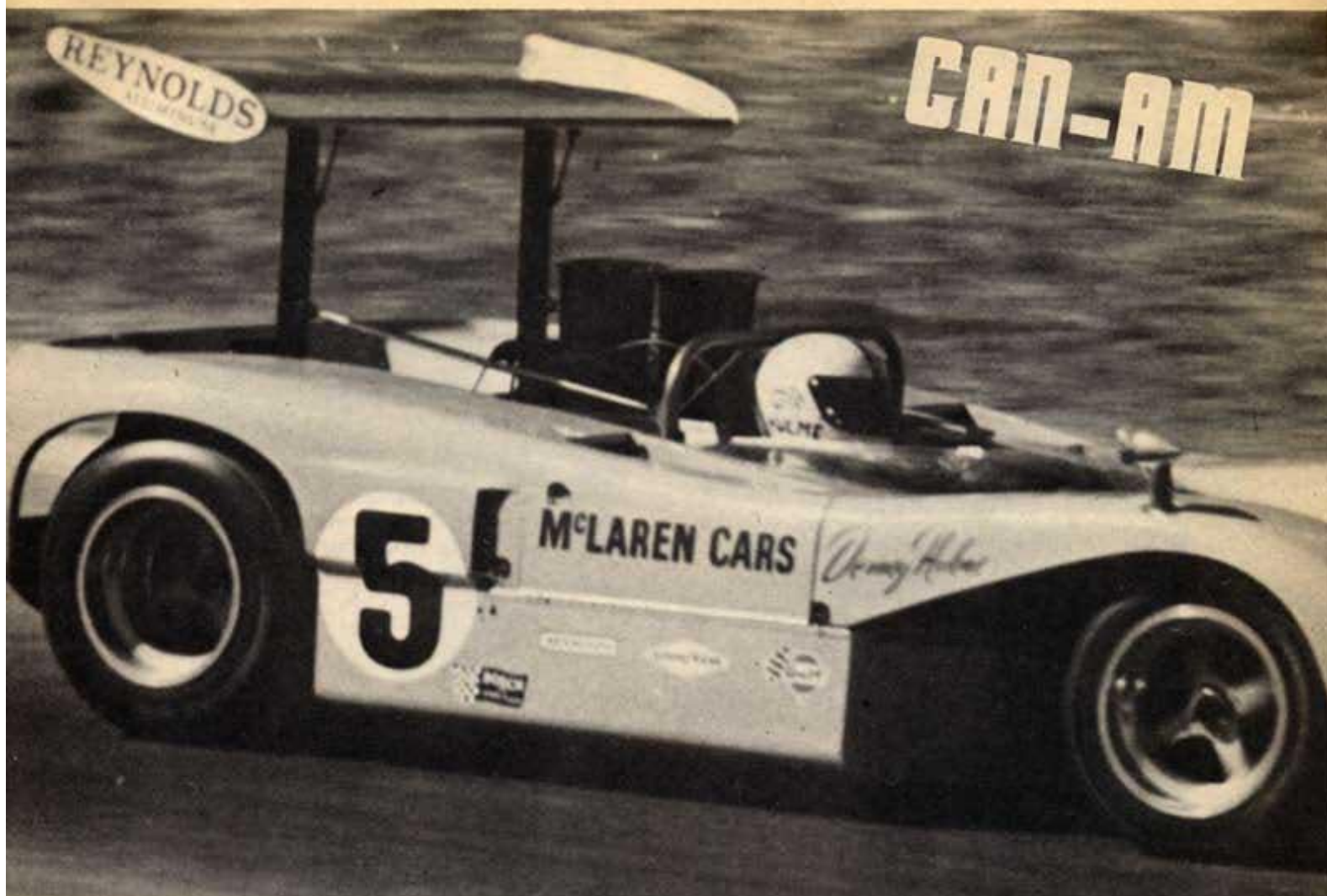


The quality of the kit can be seen in the engine compartment. Just about everything but the sparkplug wires is provided by Hubley.



But for many Dusenbergs owners, the onslaught of the depression marked the end.





**MPC's 1/20 scale version of the McLaren Mk8B  
Group Seven car is as majestic as the real thing !**

More years than I like to count have passed since yours truly and MCS' exhalted editor first started to besiege the model car factories with the idea of producing a model of a real American racing car. Our personal favorite would have been one of the better cars from the only road racing series to get its start on these shores; the Canadian-American Challenge Cup. There were a few slot racing models of the Chaparral era, but never a really accurate display model. Lots and lots of custom cars, new-year-model cars, hot rods, dragsters, funny cars, even tanks and armored cars, Grand Prix cars, and NASCAR stockers; but no real road racing sportsters.

All this, of course, is merely background for what you can see on these pages - 1/20 scale replica (its really better than just a model) of the McLaren Mk8B car that outran and outclassed everything else in the 1969 Can-Am series. Yes, we like it.

With some help from MPC, the McLaren crew allowed us into their local base for last year's assault on Riverside and Laguna Seca Can-Am races for some photos of the bare chassis and engine. With these, and the accurate moldings in the MPC kit, you can fashion a 1/20 scale duplicate of the McLaren that is more accurate than McLaren's competitors have been able to build. The kit's instructions show you

where to route the engine's wiring. Our model and the real car photos will show you where the rest of the wires, cables, and lines are routed.

Since the MPC model has every detail of the real car captured, we'll give you a brief rundown of what you're looking at. The McLarens are just what they were claimed to be - simple. There's none of that "trick" stuff that the competition tried (and failed), just straight forward independent front and rear suspension similar to almost any Grand Prix car. The castings are magnesium with aluminum shock absorbers. The disc brake rotors at each wheel are 12-inch diameter Lockheed with four-piston calipers. Steering is by McLaren's helical cut rack and pinion. Wheels are magnesium, 15-inches in diameter, with a 10-inch width at front and 16-inch width rear. The center area of the car is the Reynolds sheet aluminum monocoque chassis. This box-like area has more strength than a similar-sized collection of tubes and incorporates the seats, gas tanks and lower half of the body in a single unit. The fuel-cell equipped gas tanks hold a total of 73 gallons. The monocoque supports the front suspension, the engine, and a couple of the linkage points for the rear suspension. Most of the rear suspension is actually mounted to the engine, and/or its transmission/differential unit.

The engine is a McLaren-modified aluminum Chevrolet V-8 with an advertised 427 cubic inches (they can and are bored and stroked to nearly 500 cubes) with Lucas fuel injection and a Scintilla magneto. Claimed horsepower is



# CONQUERER

By Robert Schleicher



625 at 7000 rpm. The transmission/differential unit is a Hewland four-speed. The clutch a Borg and Beck triple plate.

Specialised Moldings produces the carbon filament and color impregnated body panels in fiberglass. Plexidor molds the unbreakable plastic windscreen. The car measures 12-feet 10-inches overall and is six-feet three-inches wide. Wheelbase is seven-feet ten-inches, with a four-foot nine-inch front track and four-foot seven-inch rear track. The Mk8B weighs 1480 pounds without fuel or driver.

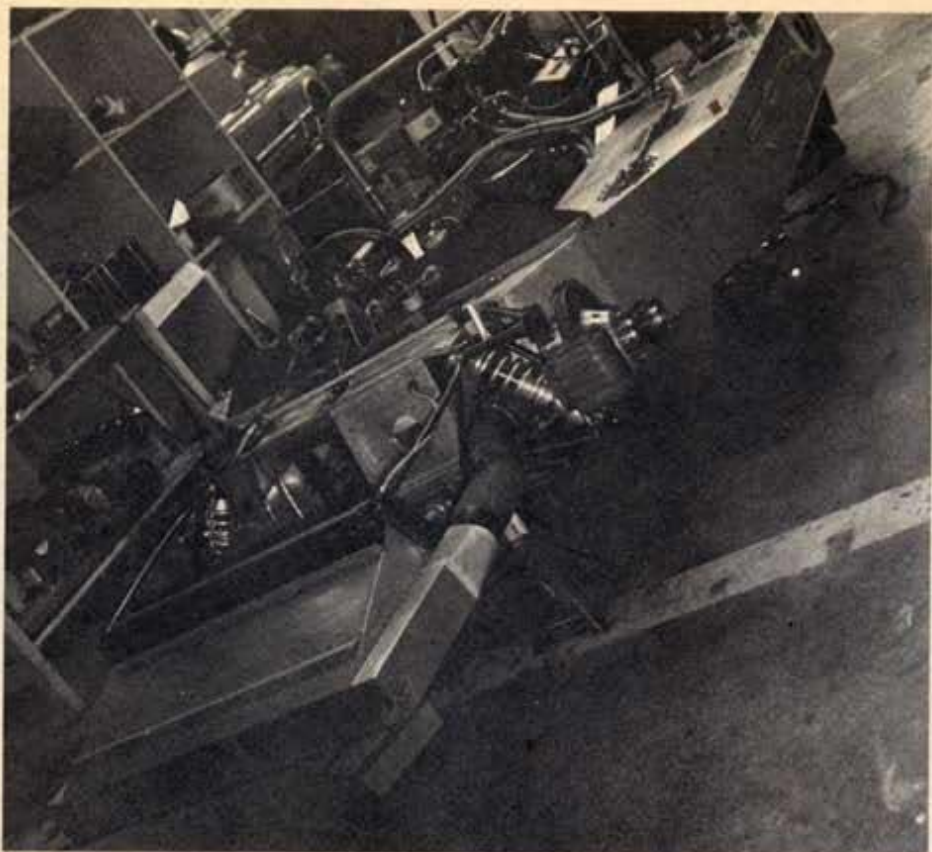
The head of the McLaren racing car design and construction firm and the car's number one driver Bruce McLaren, was killed on June 2, 1970 while testing the prototype car for his 1970 Can-Am effort. Apparently, the engine "let go" with a broken crankshaft or connecting rod, and the car virtually broke in two at over 150 mph.

With McLaren and team mate Denny Hulme driving, the McLaren cars won the 1967, 1968 and 1969 Can-Am series against cars sponsored, supported or constructed by Ford, Ferrari, Porsche, Chaparral and other giants of the racing world. McLaren's mainstay has been adequate development and testing of his cars before the racing season began — his Can-Am success is generally attributed to a combination of excellent driving and faultless mechanical preparation. At this point in time we can only hope that McLaren was enough of a businessman to set up a managerial team to continue the McLaren team with driver Denny Hulme, chief engineer Tyler Alexander, and his mechanics.



The Mk8B McLaren won every race it entered in the 1969 season with either the late Bruce McLaren or Denny Hulme driving the No. 4 and No. 5 cars. Car No. 3 was a backup car lent to other drivers at some races (including Chris Amon and Dan Gurney) to assure their success.

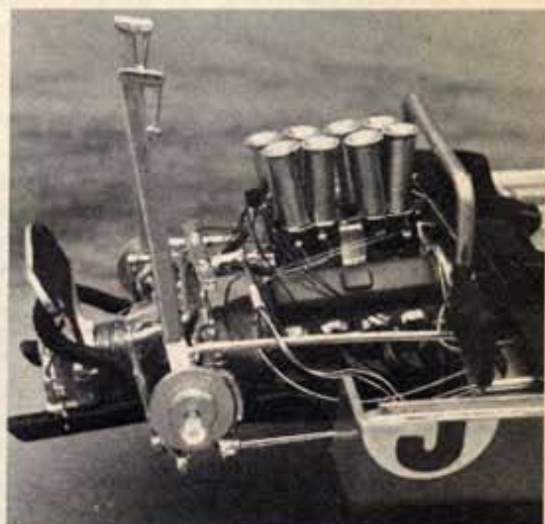
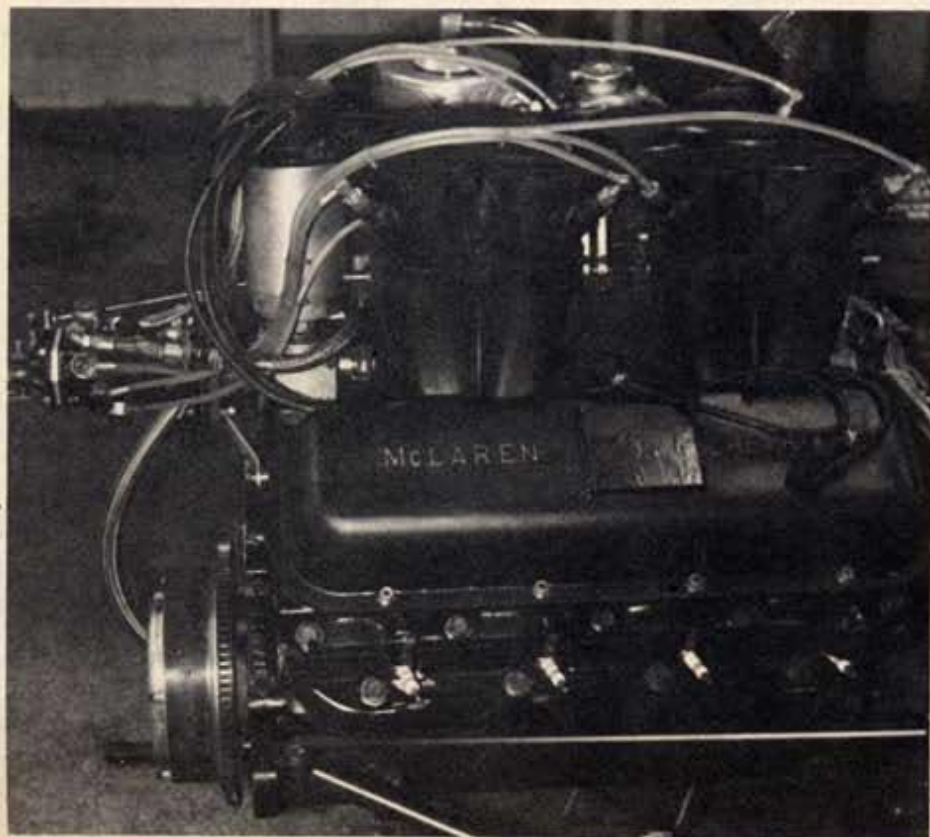




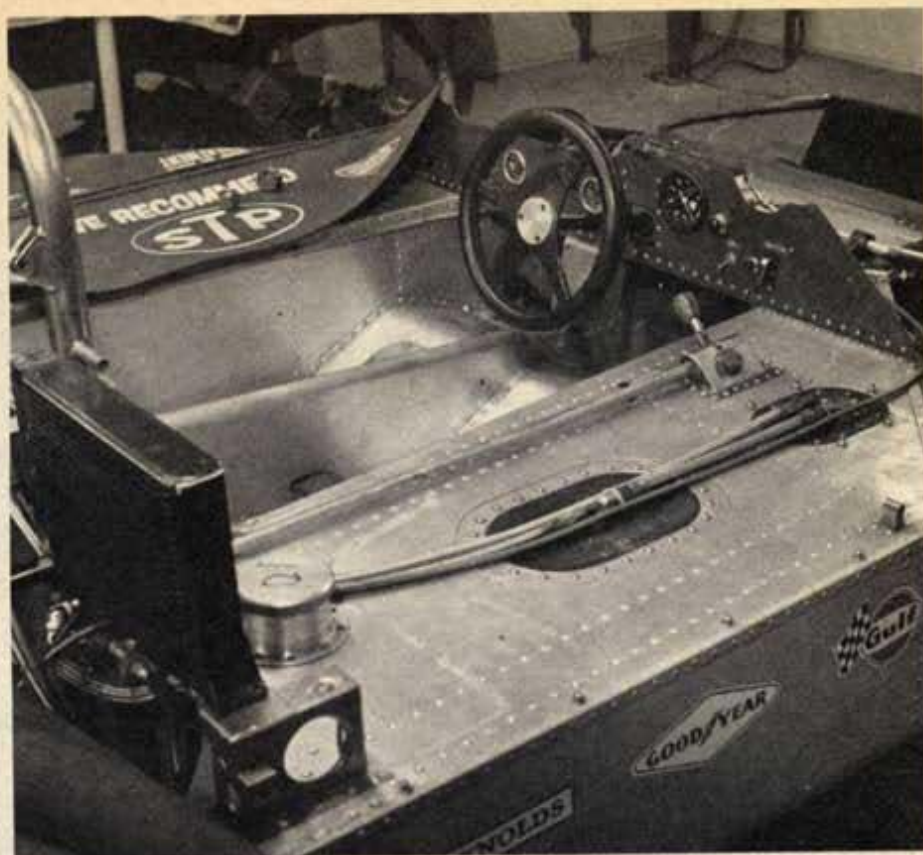
*The lower half of the center section of the McLaren is the monocoque chassis itself, including seats and fuel tanks.*



*McLaren assembles and tunes the aluminum Chevy "rat" engines. Both cars use Lucas fuel injection, Scintilla magnetos.*

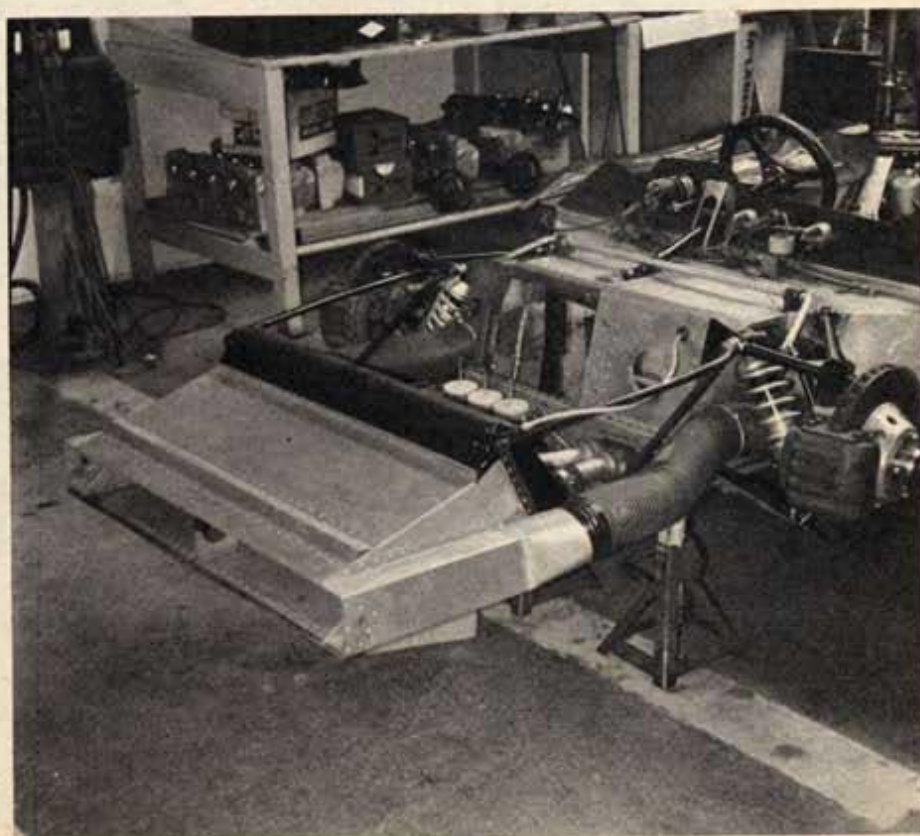
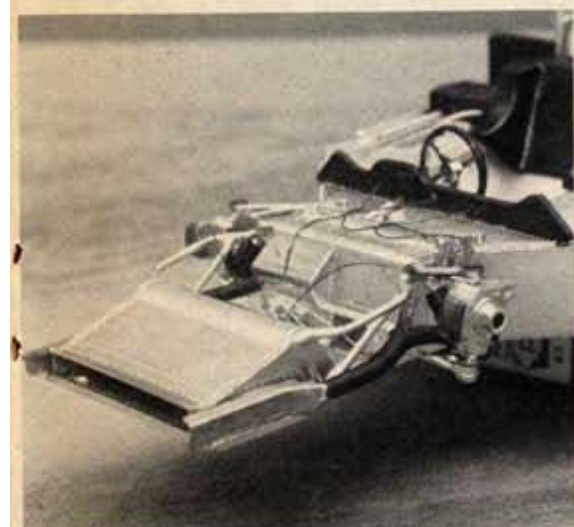




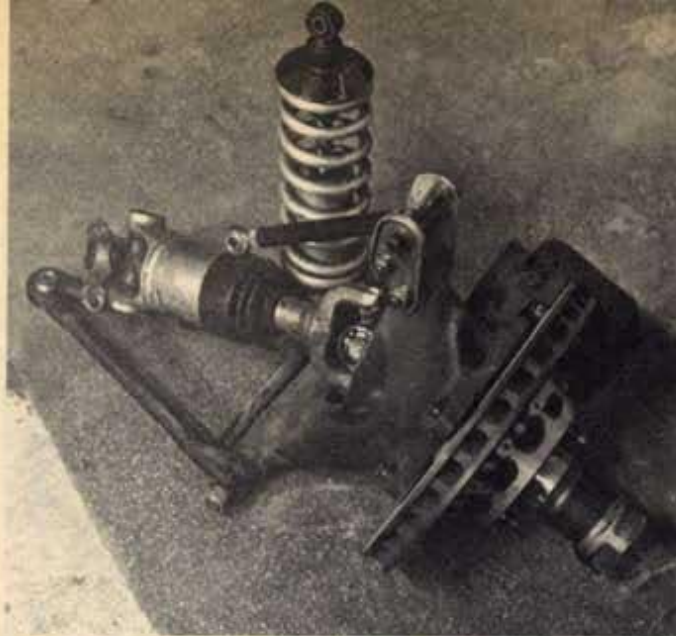


*MPC 1/20 scale model includes a soft plastic seat. All model details except wires and cables are included in the kit.*

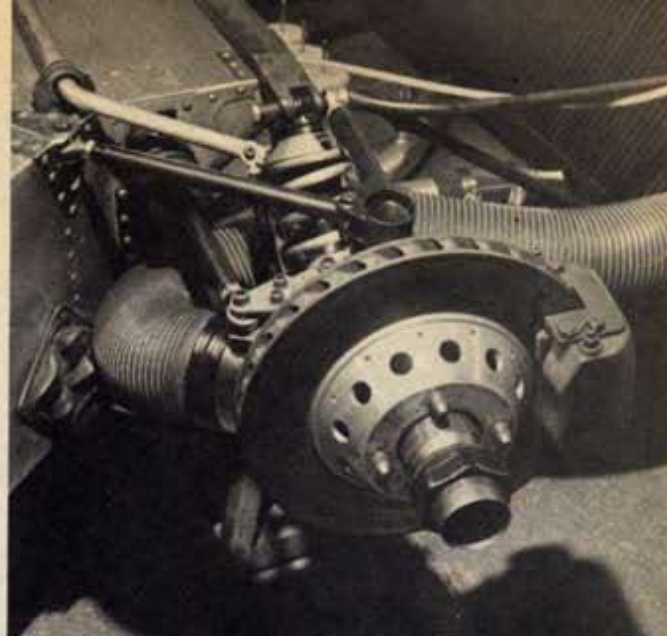
*A close look at the nose radiator, brake cooling ducts and front suspension of model & full-size Mk8B McLaren Can-Am cars.*







For you modelers who want to add those really super-detailed touches, here's a look at the major rear suspension pieces.



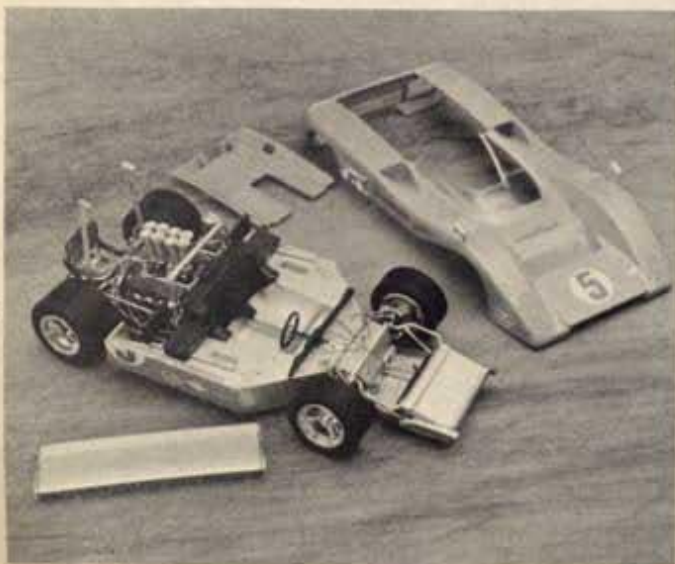
The real car's front suspension, like the MPC model's, has upper and lower "A" arms, spring/shock absorbers, disc brakes.



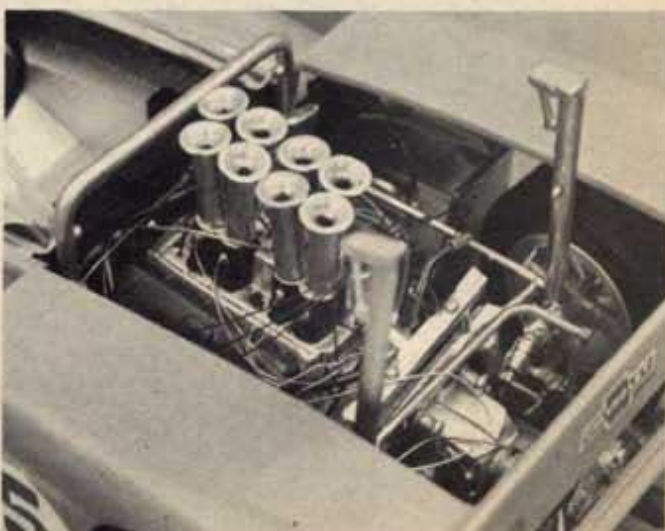
MPC's 1/20 scale kit even has removable wheel "nuts" to attach each wheel. Full size car's alloy is a bit duller than chrome.



An assortment of the full-size McLaren fiberglass body panels. Real car's parts are even the same general shape as model's.

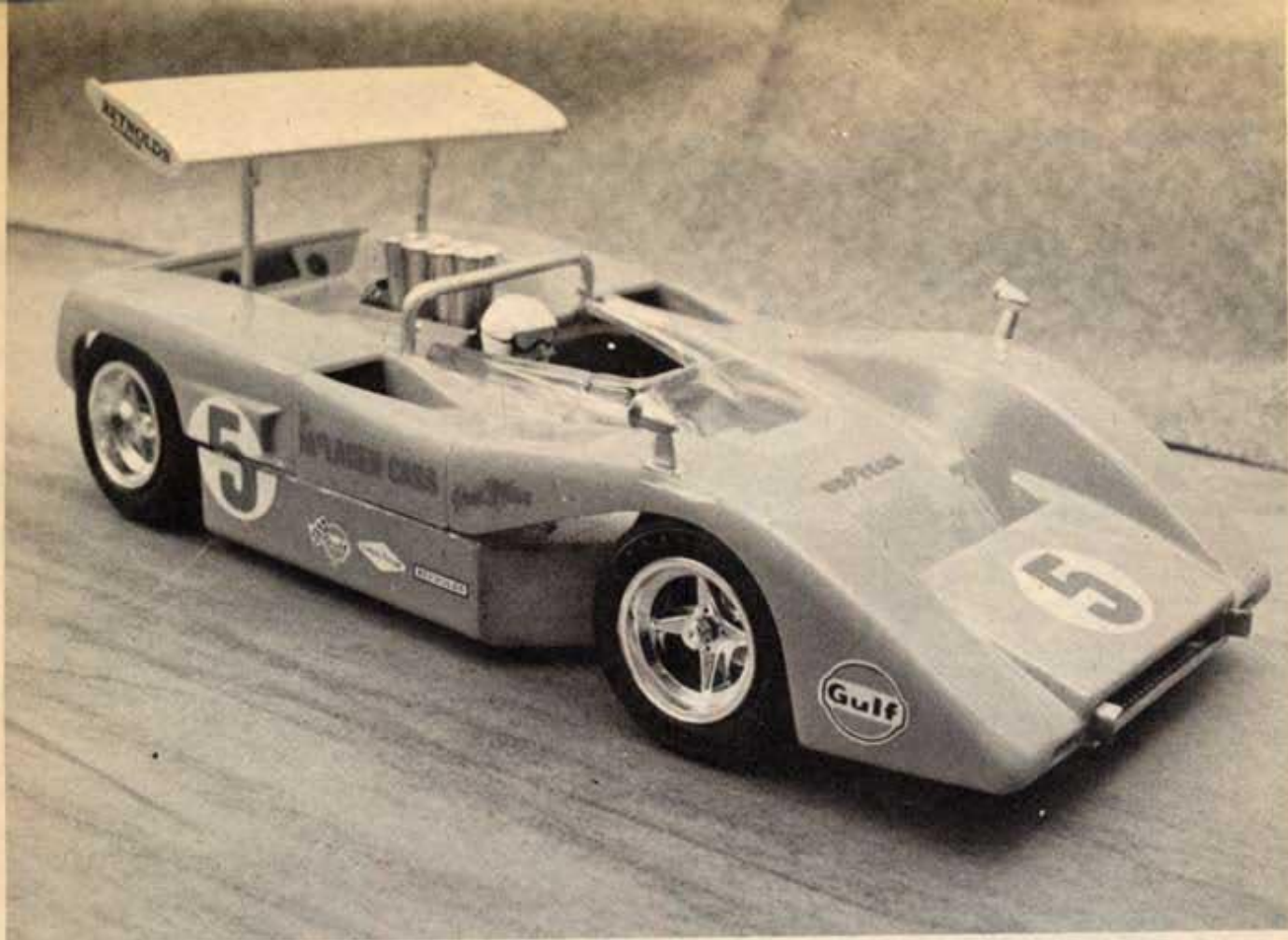


The body and spoiler of the MPC model are removable so you can show off the fully detailed chassis and engine bay.



1/20 scale is large enough to make fitting of a full set of engine wires, brake and fuel/oil cables and lines relatively easy.





Body panels and spoiler snap in place so car can be displayed in its race-ready form. Driver is not included in kit.





Each month we receive tons of letters (pounds? Ounces?) and photographs pertaining to the Model of the Month. There are a number of things that you, the entrant, can do to simplify our task.

1. Address the letter to "Brick" Price, Contest Editor, 11795 Gateway Blvd., No. 3, Los Angeles, Calif. 90064.

2. Include everything that was done to the car other than stock from the kit. Too many of our entries lack the information that others are seeking.

3. Describe the paint scheme and brand of paint.

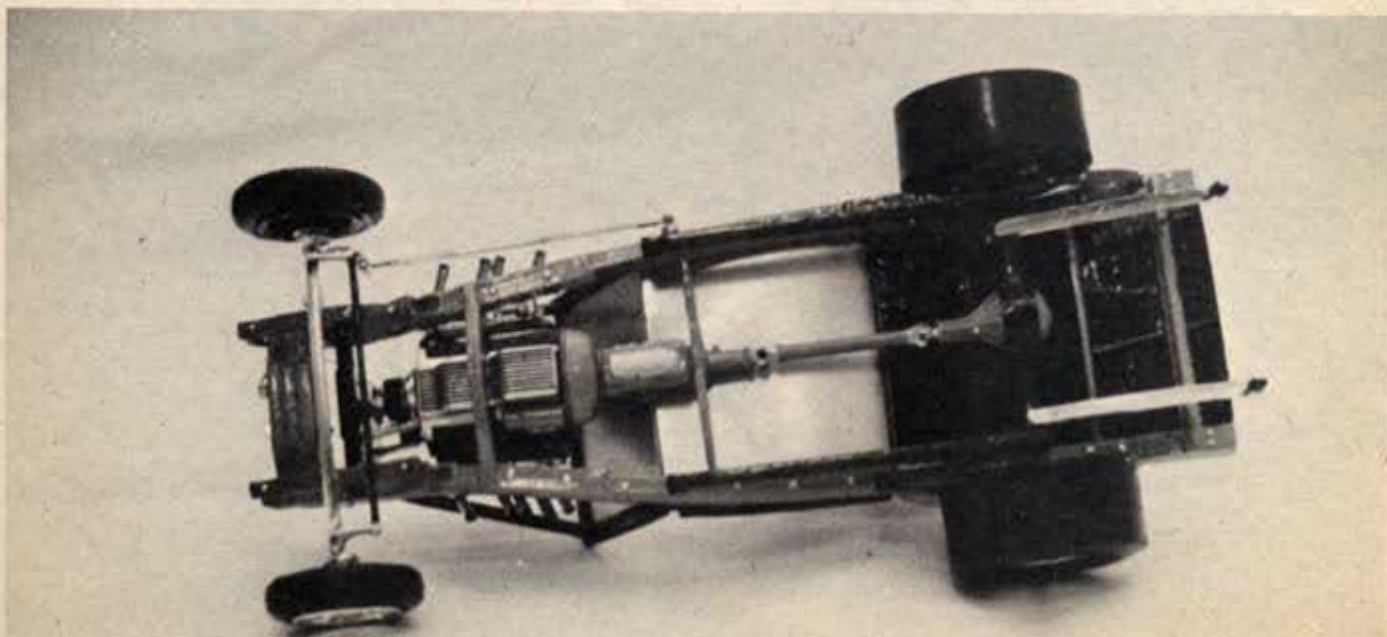
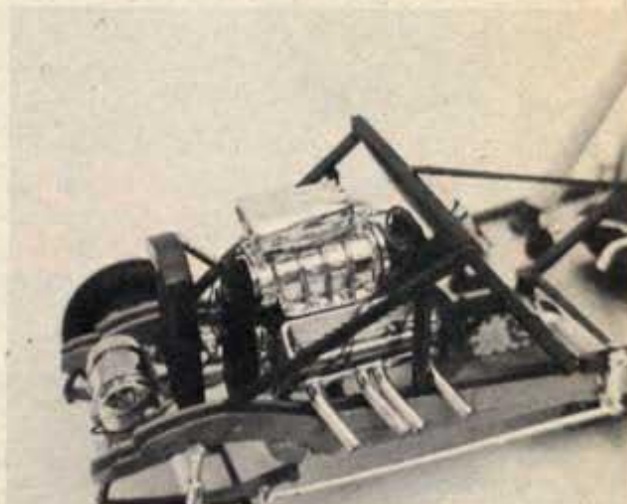
4. If it is possible, please print or typewrite all information.

5. Keep your backgrounds simple and uncluttered.

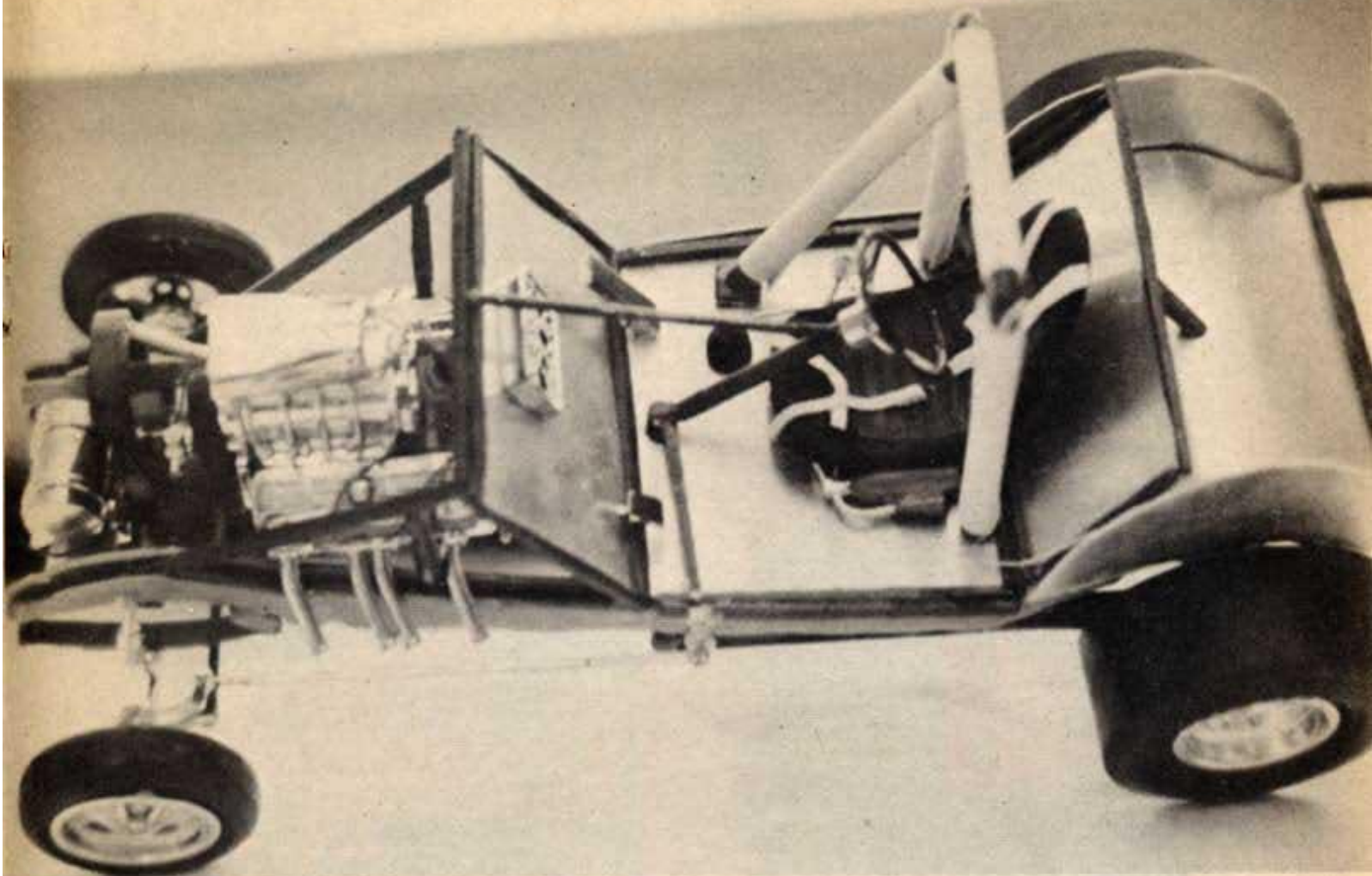
# Model of the Month

## HERE'S WHAT YOU CAN WIN!

The first place winner of our Model of the Month contest receives this fantastic Dremel No. 261 Moto-Tool kit — a \$32.95 value! The kit contains the following: Powerful No. 260 Moto-Tool, 34 accessories including high-speed steel cutters, grinding wheels, wire and bristle brushes, rubber polishing tip, sanding discs, drum sander and sanding bands, mandrels, dressing stone, finger grip extension, collet wrench and 1/8", 3/32", 1/16" and 1/32" collets, all in a molded polyethylene storage case! A magnificent, life-time tool set that is perfect for modelers.







"Bad News" gets good news — The lucky (skilled) winner of our Dremel tool set this month is Andy Janz, 401 Winter Street Extension, Troy, New York, 12180. Andy's car started life as a dull, mundane, stock '37 Chevy "Stovebolt" by AMT. The body is hinged on the chassis to simulate the fiberglass bodies found on funny cars. The engine is completely wired and lowered in the chassis to allow the scoop to fit inside. The floorboard and firewall are made of real metal. Adhesive tape was used for padding on the roll bar as well as seatbelts. The parachute is the one found in AMT's GTO kit. The exhaust headers were pirated from Revell's Dodge Revellion kit. Andy went far enough on the detail to include a parachute rip cord made of thread with a pull ring of wire. The windows are tinted with orange, fading into blue. The psychedelic rainbow paint job was done by fogging Testor's Candy Grape into orange, yellow, sapphire blue, pink and purple. After all of the colors dried, five coats of Testor's Glosscote were added. Nice work, Andy.



Jack Drobho, Ontario, Canada is responsible for this mean machine's trophy winning ways. "Cat Nipper" is a '56 AMT Ford Victoria that is powered by a 427 c.i. Thunderbird engine. The engine is completely detailed, including spark plug wires and fuel lines. Brake lines were made from copper wire. The roll bar padding, seat belts and shoulder harness were all made of adhesive tape. Windows are tinted with Testor's candy blue. The rainbow paint job was made by fogging on blue, copper, yellow, green and then blue again. A real gasser, Jack.



Harold Wakefield of Pensacola, Florida doodles away his stint in the Navy by building boss machines like this '40 Willys dirt tracker. The car may look a little strange, with Shalako tires on one side only, but it is typical for oval cars that run in one direction. The model is an AMT '40 Willys with the fenders and hood left off. The front and rear bumpers are combined to protect the front end. The engine is completely detailed with wiring and fuel lines. The dirt and bug screen is made from a piece of nylon stocking glued between two pieces of scrap plastic. The finish coat of paint is several coats of Testor's Metallic Blue.

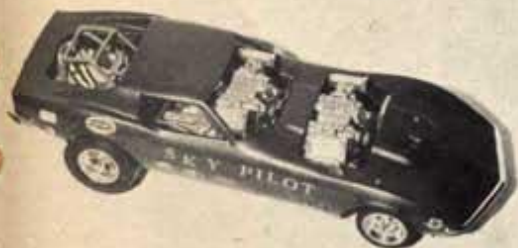
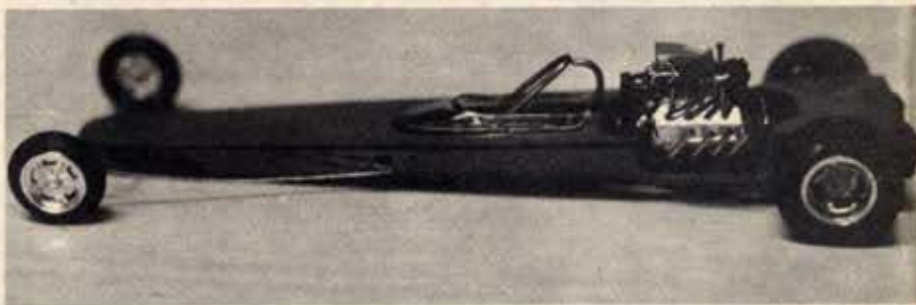




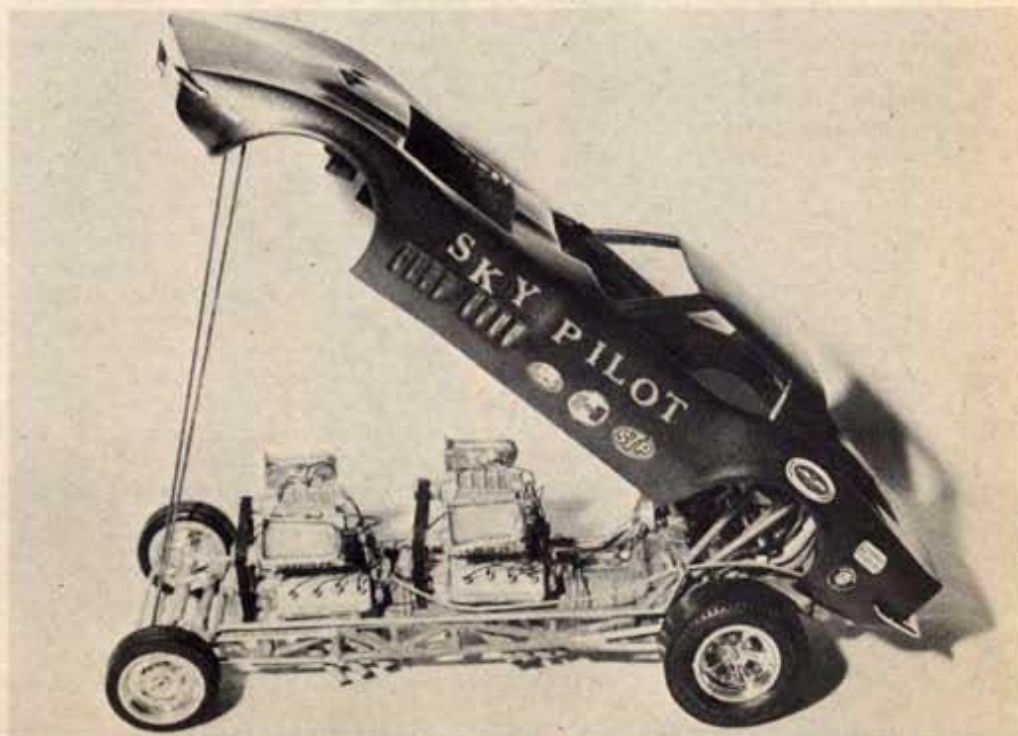
Bill Randall of Eugene, Oregon opted to build his AMX Yankee Clipper almost stock. The only part swapping was the oil tank from MPC's 1/20 scale Corvette. The slicks are lettered with white "dope". Wiring includes the engine, oil tank. The safety harness is made from bias tape. The car was topped off with ten coats of purple metalflake over five coats of silver. AM-Xceptional, Bill.



Norman Berkun of Great Neck, New York scratch-built this wild and very unusual rear-engined dragster. Most of the car parts are metal, such as the chassis, steering wheel, (paper clip) roll bar, exhaust headers, tie rod and front end. The parachute was made of folded tissues painted with Testor's flat black. The body, (designed by ol' Norm, himself) was made from cardboard.



Kenneth Jakubawski, Bayonne, N.J. made good use of the two MPC kits needed to build his loooong Corvette! All exterior detail was sanded smooth and puttied to simulate a fiberglass body. Four coats of AMT Devil's Red Enamel add lustre to go-power. Twin hemi's are twice as tough as one to detail, but Kenneth did it anyway. The chassis, as well as the front and rear suspensions, was scratchbuilt from brass tubing.





# THE ART OF SCRATCH-BUILDING

By Phil Jensen

LAST ISSUE, I TOLD YOU what "scratchbuilding" is, and a little about its history. I explained that, once upon a time not too many years ago, scratchbuilding was the *only* way to go but — even though a vast variety of kits is available today — there are still two very good reasons for trying your hand at this art. First, it enables you to build a model of *any* car, even if it's not made in a kit version. Second, it's a three-dimensional art-form and an excellent way to demonstrate your craftsmanship. Scratchbuilding is a challenge, a highly creative pastime.

Let's assume you agree with me, and have accepted my invitation to join the elite of automotive modelers. Where do you begin? Well, I suppose the first thing to do is decide what kind of automobile you're going to build. What type interests you most, antiques, classics, sports cars, or racing machinery? If you have no specific preference, I'd suggest you choose a Grand Prix or Indianapolis racing car for your first attempt. Such cars have simple, straightforward lines, lack fenders and lights, and show a minimum of exterior details. A classic English or European sports car, as typified by the MG TC or TD, the Jaguar SS-100, or even the Aston-Martin Tourist Trophy replica, is a good second choice. It's best to avoid closed cars, at first, or those with complex, sculptured body lines.

Before you begin construction, you'll need at least some elementary drawings plus, if possible, some good photos of the actual car. Really, the better the drawings, the fewer photos are necessary, but pictures provide many clues to contours and details that may not be obvious in a line drawing.

At the end of this column I've included the names and addresses of some plans sources. I'd suggest you write to all of them and obtain their lists. To the best of my knowledge, all of these sources are active but, occasionally, such operations go out of business unexpectedly.

While you're waiting for the plans lists, read everything you can about the car you've chosen to build. Here's

where you'll find not only photos and specifications, but such important details as the color scheme, proper racing numbers, and other bits of lore that will give you a "feeling" for the car you're going to re-create in miniature. Sadly, your local public library probably won't be of much help. Few authoritative books on automobiles can be found on their shelves, although many have been published. A most helpful catalog of books on automobiles, arranged by make, can be obtained for \$1.00 from Classic Motorbooks, 3844 Thomas Avenue South, Minneapolis, Minnesota 55410. While automotive books aren't cheap, they're generally well illustrated and certainly deserve a permanent place on the enthusiast's bookshelf.

Something else to consider in your planning stages is the scale in which you wish to work. In general, most scratchbuilders work in 1/12th, 1/16th, 1/24th, and 1/32nd scales. The plastic kit makers' favorite, 1/25th, is seldom employed by scratchbuilders because it's rather cumbersome to handle. The others are "architects' scales" and a triangular ruler, laid out in inch and foot equivalents, can be purchased inexpensively in art and drafting-supply stores.

A rule to remember is this: The larger the scale (e.g., 1/12th or 1/16th), the more detail you *can* incorporate into the model; the smaller the scale, the less detail you *need* to incorporate. A large model will look bare and incomplete unless such things as hood-latches, spring shackles and clamps, dashboard knobs, and windshield clamp-nuts are included. These parts and others are difficult to make in small scales, but need merely be hinted at (or omitted altogether) and the model will still look convincing. The choice is yours.

Suppose, when you receive the plan lists, you discover that drawings aren't available in the scale you've chosen. Don't fret! The fix is simple. Get them anyway, and then take them to a shop that makes photostats. (Look under "Blueprinting" or "Photocopying" in the "Yellow Pages" of your 'phone directory.) Explain your problem to the boss, and he'll photo-enlarge or photo-reduce the plans to the proper scale. Tell him to be accurate and try to avoid distortion. The cost is nominal — generally around \$2.00 or so.

If you don't find plans listed for the car you want to build, the problem is a bit more complex. Obviously, you're going to have to draw you own! To make usable rough working drawings, you don't need to be a draftsman or an artist, but you *will* need a couple of pieces of equipment: the architects'

scale rule I mentioned above, a compass, pencils, paper, a 30-60-90 drawing triangle, and a "French curve."

We'll assume, for the moment, that you've been able to determine, from your reading, a few basic dimensions of the car — wheelbase, tread, tire size, over-all length, and height. Begin by drawing a "ground line" the long way of the paper and perhaps an inch from the bottom edge. On this, lay off the scale wheelbase and draw verticals at the wheel centers. Set your compass to the outside tire diameter and draw circles at both verticals, just touching the ground line.

Add a line parallel to the ground line and at a distance above it equal to scale height. Next, study the photos and try to determine front and rear overhangs. It's usually convenient to relate these measurements to tire diameter. That is, does the nose of the car extend one-half or one-quarter of tire diameter — or less — in front of the wheels? Is rear overhang equal to tire diameter, or is it one-and-one-half times that measurement? Establish the front and rear verticals and pencil them in lightly at first, check the distance between them against known over-all scale length, and adjust if necessary.

Referring constantly to the photos, pencil in the body outline. The previously established "boundary lines" will be helpful in this. Locate the cockpit rear edge relative to the rear wheels and the forward edge proportionately. Note whether the hood dips below the top edge of the front tires or is above them. Keep refining the outline until you're sure it's as right as you can get it, smooth it up using the "French curve," then work in such details as the break between hood and cowl, any other panel divisions, and louvered areas.

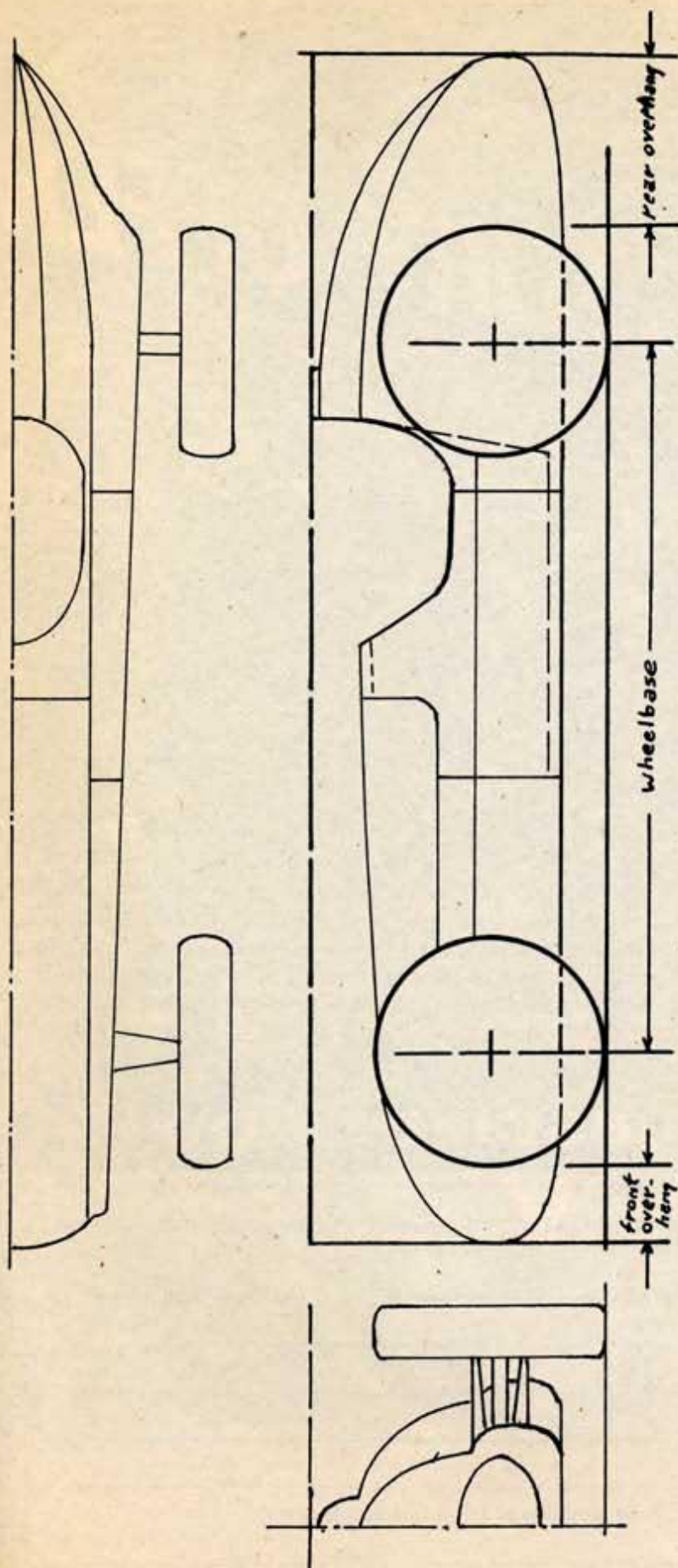
Front, rear and top views may now be "projected" from the side view outline. Head- or tail-on photos are most helpful in deriving the body sections, but three-quarter views also offer many clues.

Note that we've made no effort to draw highly detailed plans. These aren't necessary for our purpose because details can be worked in on the model by referring to the photos for size and location. It's helpful to mark in cockpit interior on the side view, however, and also the underhood area if you plan to fit a scale engine.

Should you wish to build your model "from the frame up," the frame should be drawn on a separate thin paper overlay temporarily taped over the outline plans. The same applies to the engine, if used.

Next time, we'll talk about materials, tools, and techniques.





THREE-VIEW DRAWING OF INDIANAPOLIS "BLUE CROWN SPECIAL," DRAWN FROM PHOTOS AND A FEW DIMENSIONS

#### Sources of Plans

Mr. James Ison, c/o "Autoplans," Box 601, Dept. MCS, Sturgis, Michigan 49091 (has plans in both 1/24th and 1/16th scales; please send stamped, self-addressed envelope when requesting list).

Mr. Marshall Johnson, c/o I.A.A.M. Plans Service, Dept. MCS, 508 Greenleaf Dr., Monroeville, Pennsylvania 15146 (plans are in various scales; please send 10¢ for list).

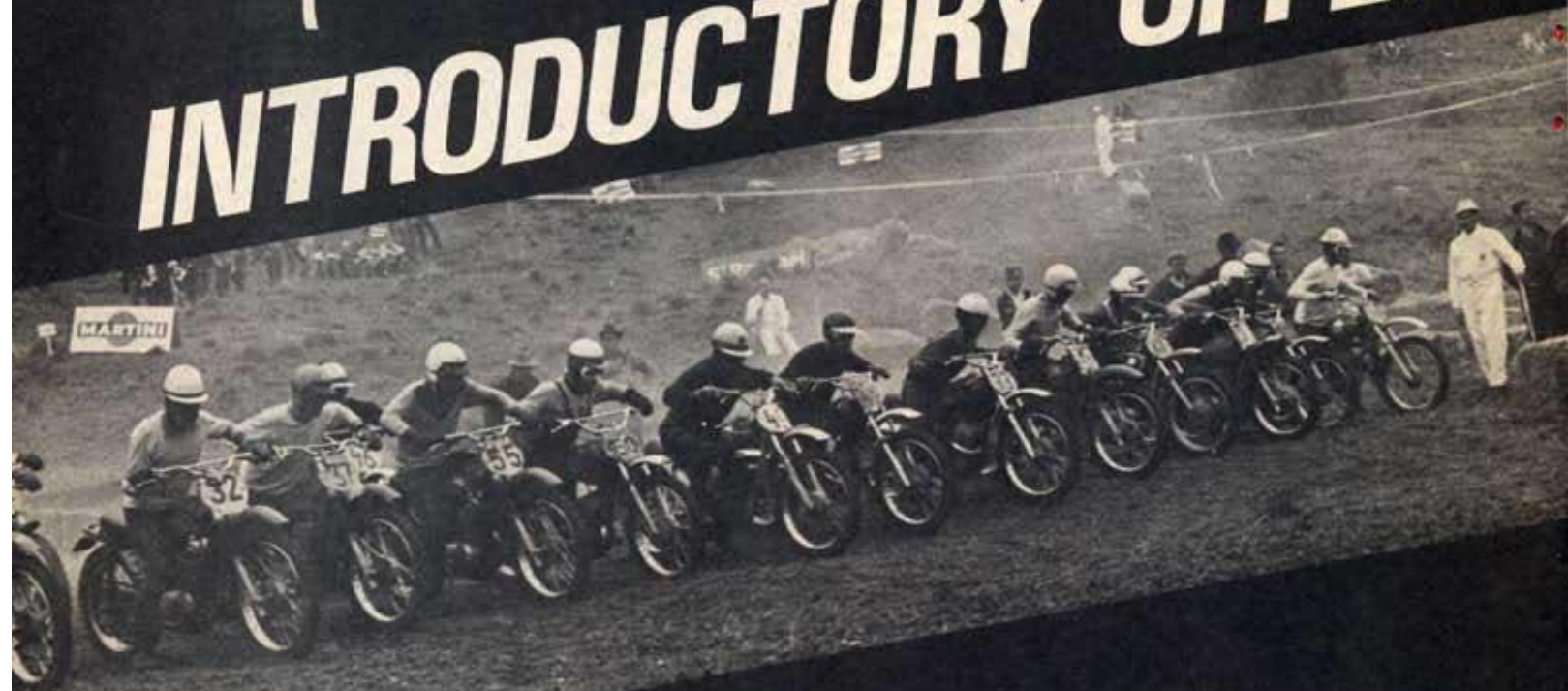
Mr. A. H. Young, c/o Conestoga Publications, Dept. MCS, 78 Marlins Turn, Hemel Hempstead, Hertfordshire, ENGLAND (plans in various scales; some photos and booklet reprints also available. Send International Reply Coupon, available at post offices, for lists).

Model Cars Plans Service, c/o Model Aeronautical Press, Ltd., Dept. MCS, 38 Clarendon Road, Watford, Herts., ENGLAND (plans in various scales; wide variety available).

John W. Caler, 7506 Clybourn, Dept. MCS, Sun Valley, California 91352 (carries "Car Profiles," booklets on individual cars which contain much data, photos, and color drawings which can easily be redrawn into plans).



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# The "Live In" Wagon

Revell's 53/54 Chevys take a built in "living room" beautifully so why not do it ?

The latest customizing craze from the Pacific shores is that of adapting any and all types of station wagons into weekend-style "homes." One of the first to feel the hand of the "homemakers" was, of course, the Volkswagen bus. Some started with the dealer-optional lifting roof, and added paint and interior items of their own. The most unusual examples provide some sort of permanent bulge over the center section to give needed headroom for standing room. A number of firms offer new fiberglass roofs for the real VW station wagons and panel trucks with a sizable increase in height. Some merely add a bubble-like bulge over the center section, while others extend the height of the entire vehicle, giving it a mini-moving van appearance.

The really "in" instigators of extra headroom for the VW station wagon bus apparently wanted not only headroom but some sort of view as well. A number of plexiglass clear domes appeared that varied in height from a foot to as much as three feet. Some may have even begun life as nose or gun "blisters" on World War II-era aircraft. The most interesting adaptation, though, are those where the window area of some automobile has been grafted onto the roof to give the VW a two-story look. From an appearance standpoint, the Karmann Ghia roof, mounted on one of the windowed VW buses, is the most successful. We've even seen VW "bug" roofs welded or bolted onto VW bus roofs; 1953-era Studebaker coupe roofs on '56 Chevy panel trucks; and a '57 Ford hardtop affixed atop a '57 Ford station wagon. The resulting vehicles look a little bit strange, but far better than the bulge or moving van look of the VW's options.

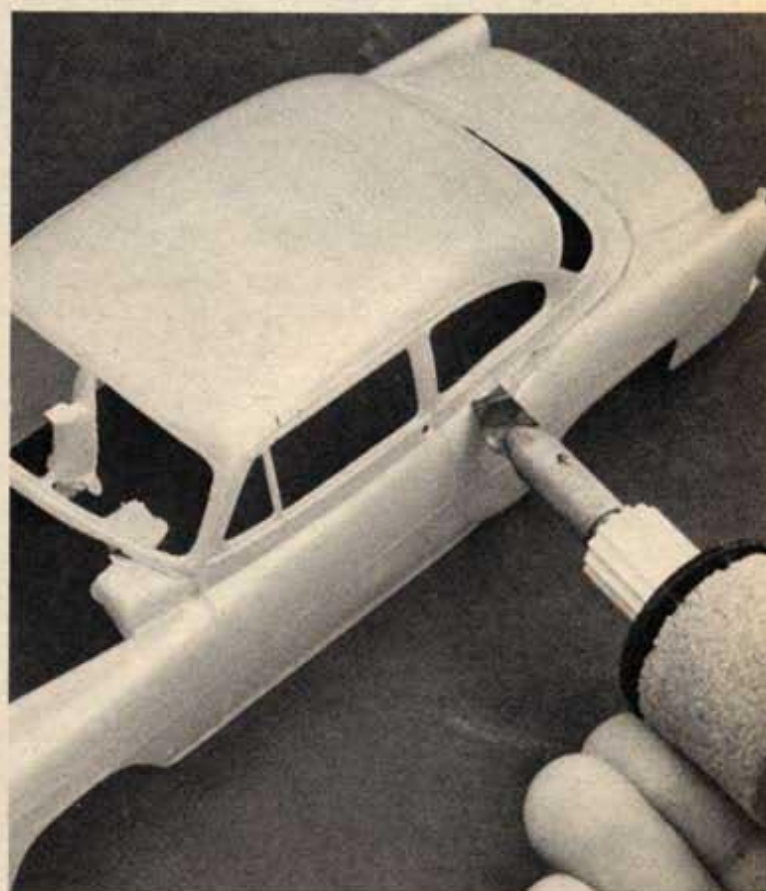
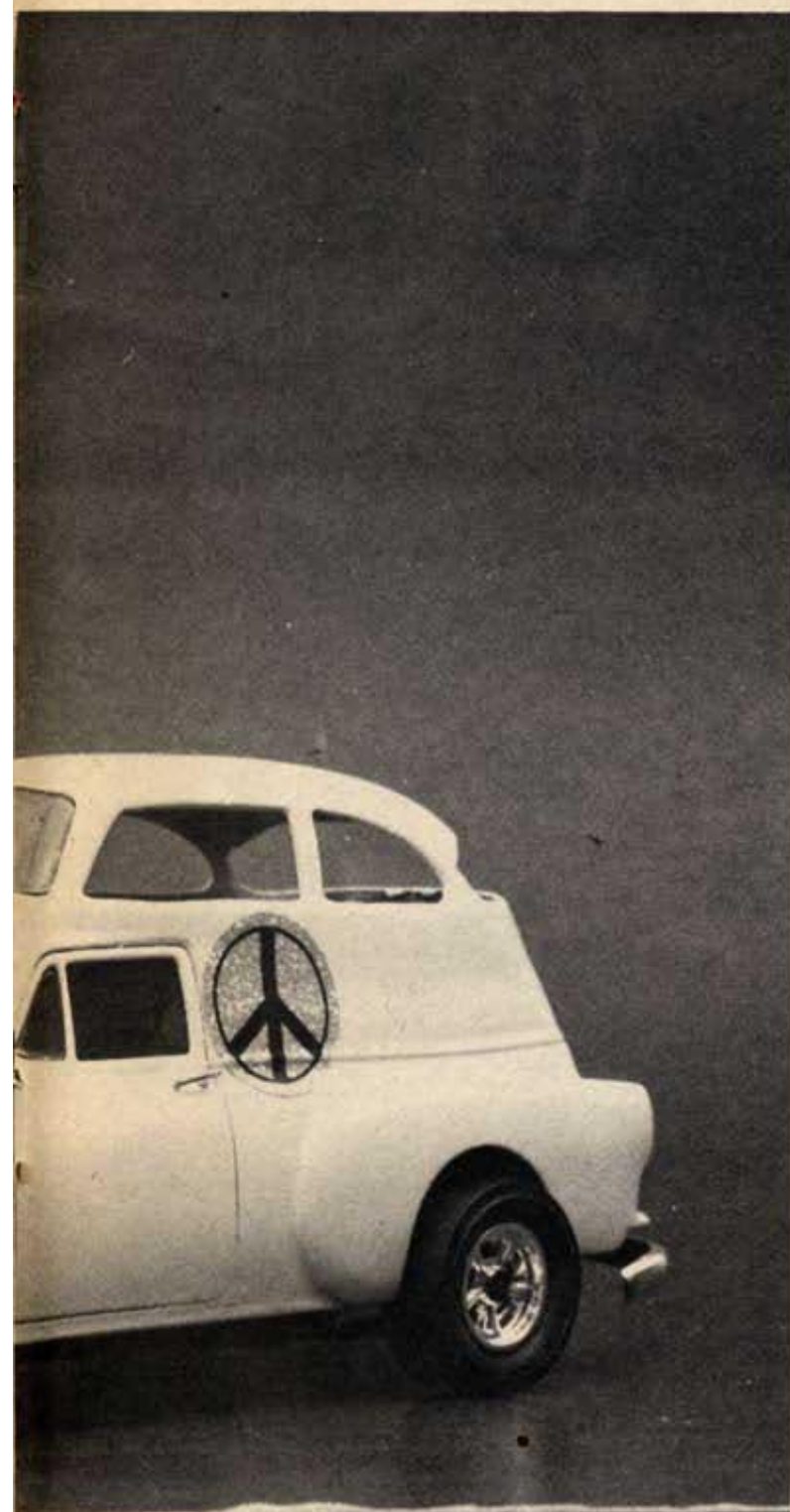
Now that we're turning you model builders onto the idea, we will assume that no two combinations of coupe or hardtop roofs upon station wagons will be the same and that no vehicle will escape your cutting knives, glue and filler paste.

Our photos show the basic steps that must be followed in fitting a coupe roof and window area to a station wagon or panel delivery truck. Basically, the coupe or hardtop roof is sliced from its body at the natural seam where the two join. For model builders, the X-Acto or Auto World "hot knife" is the best answer. We picked Revell's 1953 Chevy panel delivery and the Revell 1954 "Chevy High-boy" as being more typical of the low-cost vehicles a full-size builder might pick. Revell has the VW panel truck in their "Bed Bug" kit if you want to try the original. If the side walls of the panel truck or station wagon taper — and most do — you'll likely have to section a piece out of the center of the hardtop roof area to slim it down. The rest is a matter of fitting the cut-off edges of the hardtop roof area to the roof of the panel/wagon — just keep a generous supply of body filler paste on hand to smooth the joints. If you wish, the interior can be fitted with either seats or storage cupboards and beds like any full-size pickup camper.



The latest craze from the Monterey, California area are station wagons and panel delivery trucks with an extra window/roof from a hardtop or coupe added for more headroom.



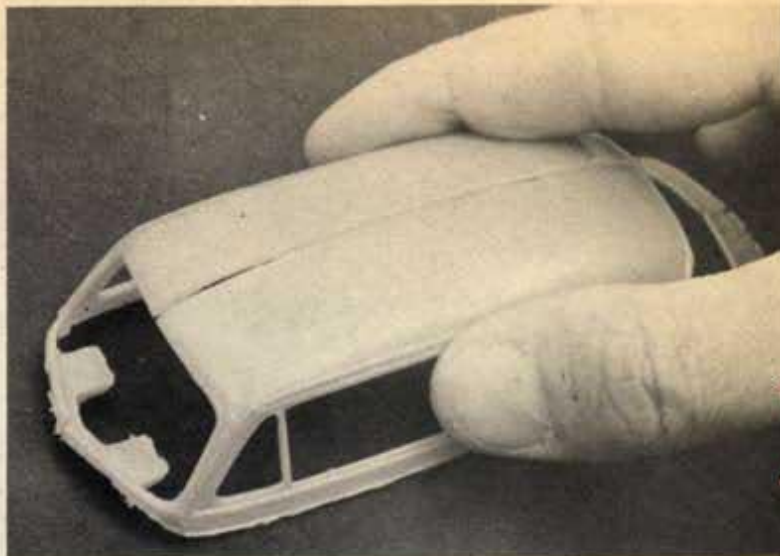


Use an Auto World or X-Acto "hot knife" to slice the roof and window area from Revell's '53 Chevy "Highboy" coupe. Note cut line.





Approximately 3/8" must be sectioned from the center of the '53 Chevy "Highboy" roof so it will line up with '54 Chevy panel delivery.



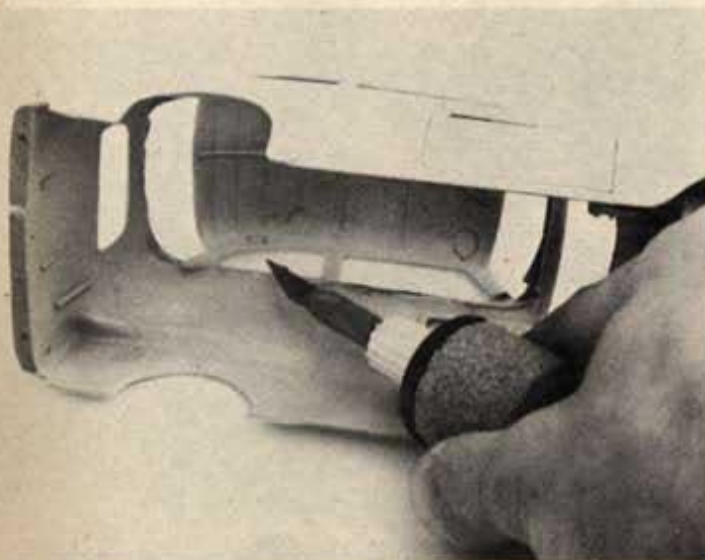
Glue sectioned roof halves together, bend lower front and rear window frames up slightly and fill seam with body filler.



Vee-cuts must be made in each lower corner of the coupe's roof rear window frames. Bend frame down and glue above panel door.



Fill seam between coupe and panel roofs with automobile body filler. Allow to dry overnight, then sand joints smooth.



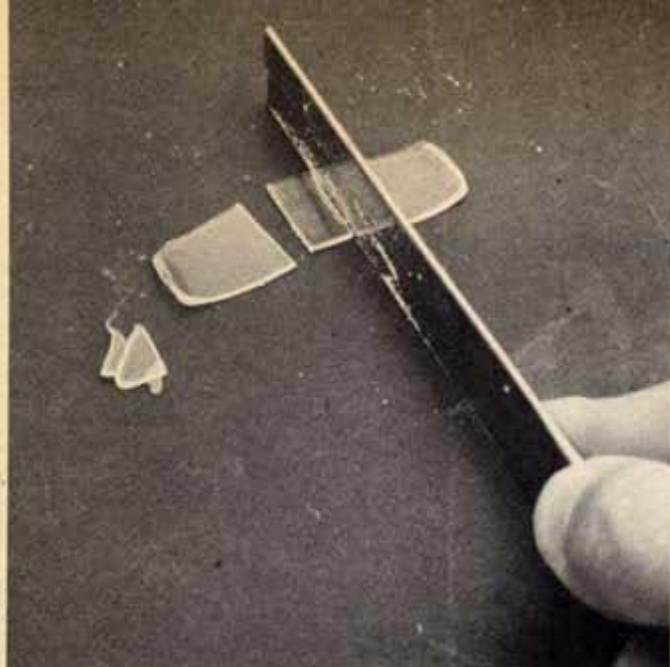
Save removal of panel delivery truck's roof until coupe addition is complete. Then slice away with a hot knife.

40/Model Car Science



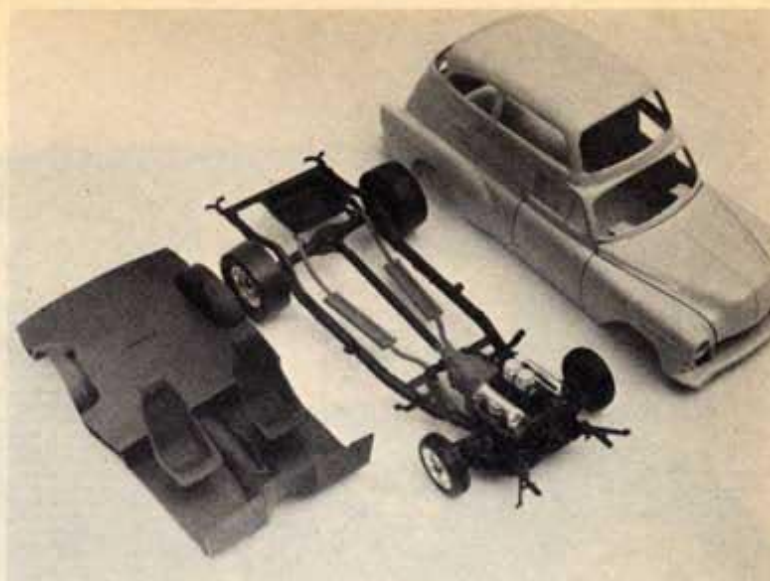
Bend a coat hanger to hold body while painting. Wash body in detergent, rinse, dry, then spray primer and color coats.





About 3/8" must be sectioned from front and rear windows of coupe. Cut window to fit; rejoin halves with clear epoxy.

Add flower or peace sign stickers from a stationary store and/or the kit's racing sponsor decals if your "Home Delivery" is to be a racing-car pit or tow vehicle.

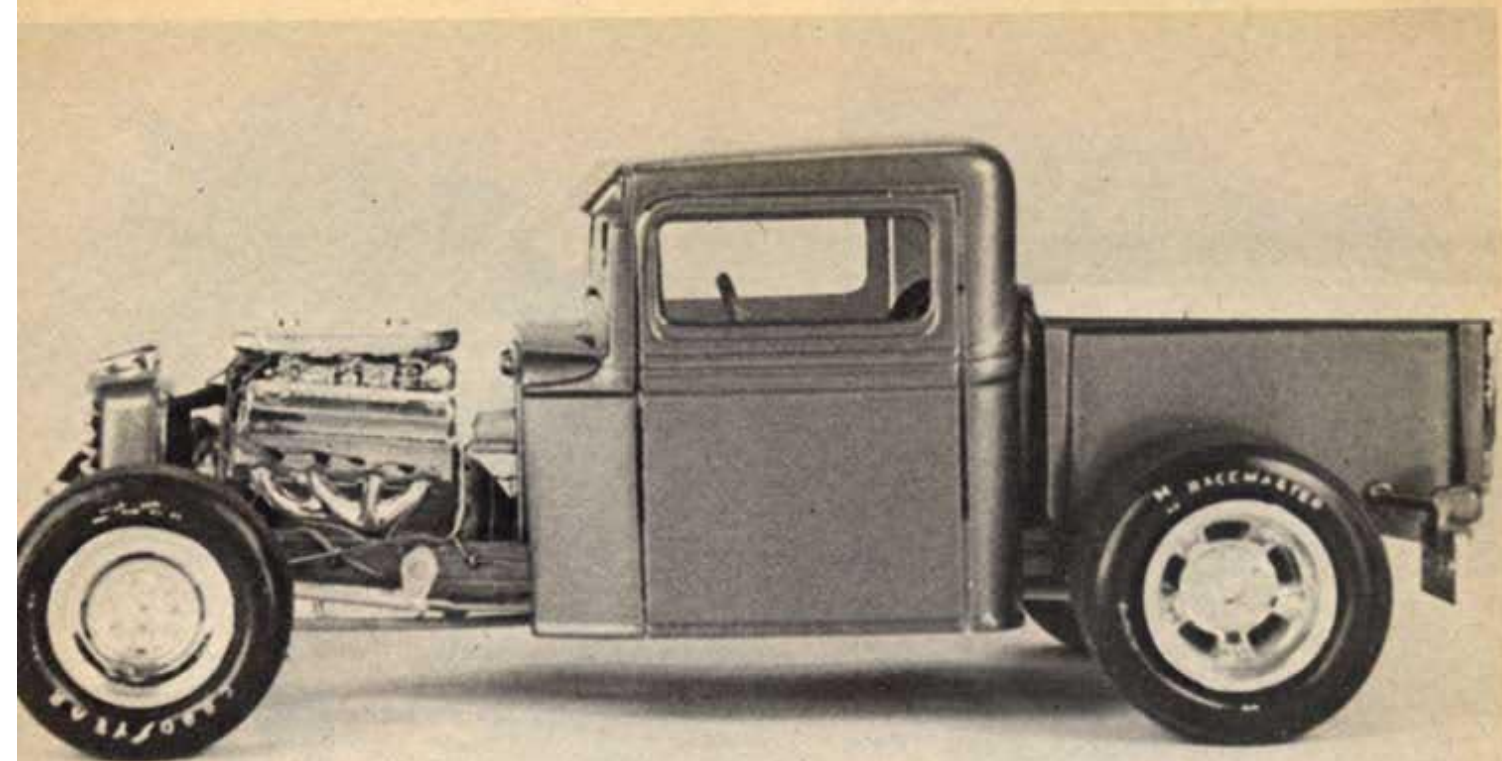


Fully detailed chassis are part of both Revell '53 "High-boy" and '54 "Panel Delivery" Chevys. Interior can be modified to suit.

Epoxy windows inside top and bottom areas before adding chassis or interior. Mag wheels, separate door handles are stock kit.



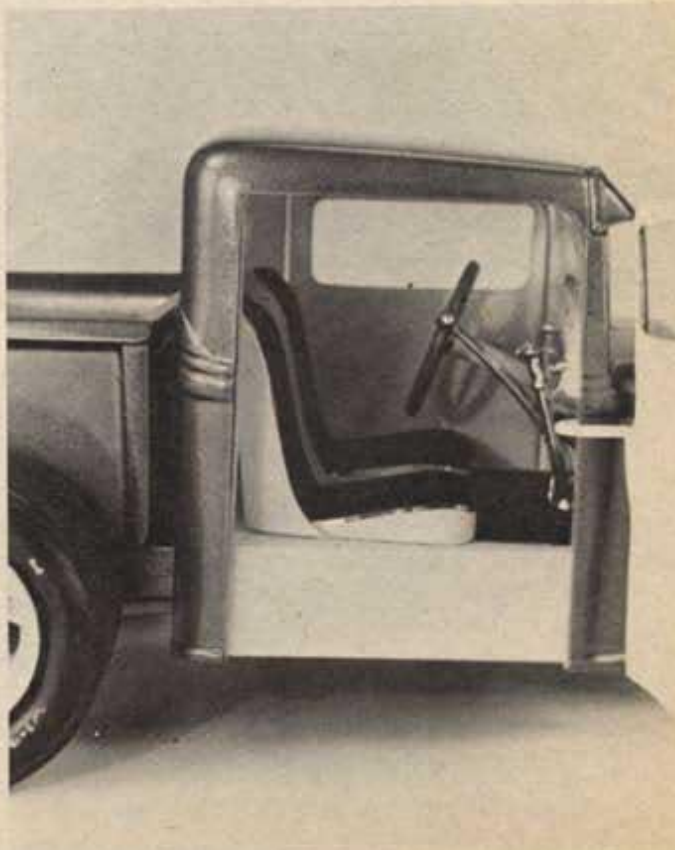
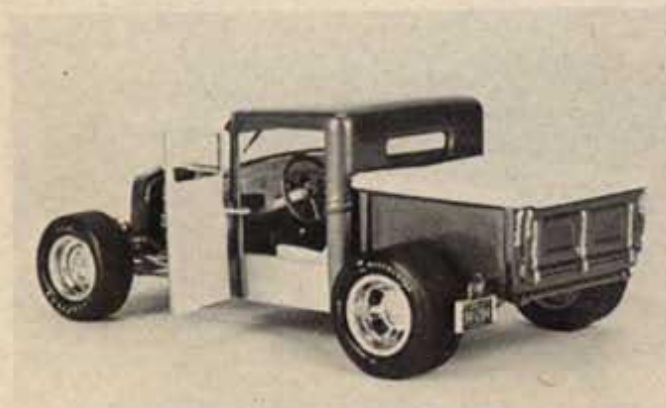
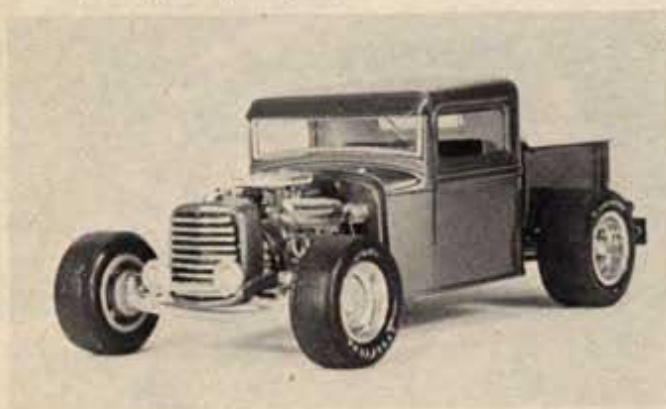




# Back to customizing

Here's how to chop and channel AMT's '34 Ford pickup

By Wayne Springberg





Building a true custom is more than a challenge, it is an experience of true self expression, a statement on the customizer's view on the way he feels cars should look. This article does not go the full radical route, but straddles the line between just a reworked car and a radically restyled custom. It contains two of the three areas required to be called a "true custom," chopped top and channeled, but not sectioned.

For those of you who are new to this area of modeling and don't understand the jargon, "chopping" is the act of removing a portion of the posts that support the top and then joining the top to the shortened posts (thus lowering the top).

"Channeling" is the lowering of the auto body over the frame to bring the body closer to the ground.

"Sectioning" involves removing a horizontal portion from the body then joining the two body pieces again; this makes the body much smaller, and gives it a longer look. Some also remove a horizontal section from the very bottom of the body and call this sectioning, but it really isn't. It can be, and is, called "simple sectioning," but it is only a form of "channeling," and should be called that.

So much for basics, let's get down to work. Pick up your knives, saws, and an A.M.T. '34 Ford pickup/stake truck kit.

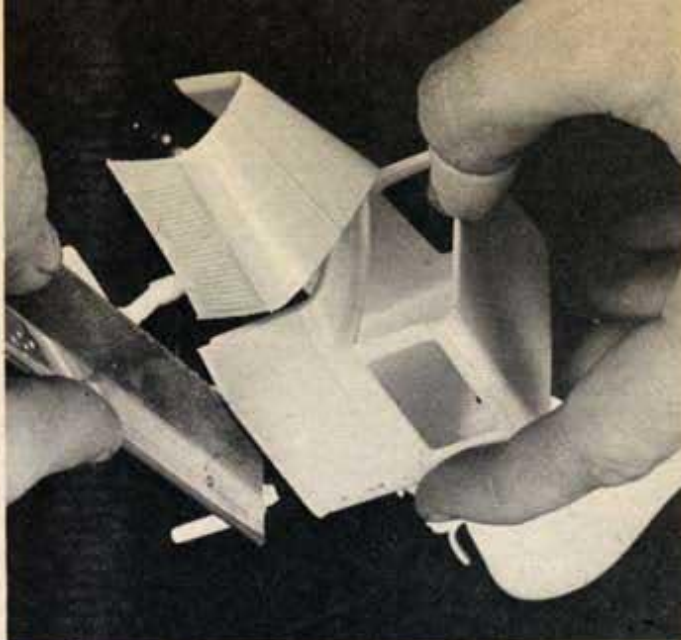
If you shorten the pickup bed, you must also shorten the frame. It is important that you use the tires that are going to be on the completed model to take the measurements for shortening the frame, as in the photo. If you don't, you may get the tires too close to the body. The rear wheels and the tires are the only items taken from another kit to complete this article. You can use the stock wheels and tires in the '34 Ford kit if you have no extras. The tires and rear wheels shown were extra parts in a kit, so that kit can still be built. Extra parts in kits should always be saved for use on other models.

Always use masking tape cut to the width of the plastic to be removed for all cutting and chopping. It is the easiest method for measuring as well as the most accurate.

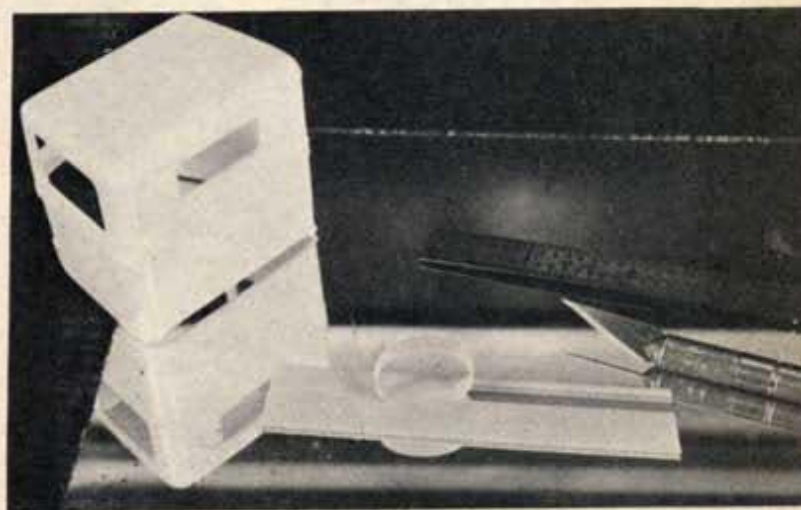
Cutting out and hinging the doors is not hard, but has special problems for this model. The curved part of the door comes right where you chopped the top, and there is only a small amount of plastic between this area anyway (where the top joins the front windshield posts) but it is especially weak because of the chopped top. Bracing it is a must, along with special care in handling. Use a No. 61 00-90 tap bit to drill the holes in the wood brace, and No. 56 00-90 clearance bits through the plastic brace and back window block. You would not have this problem if you made your cut closer to the bottom of the posts, but the front posts taper, and the top post wouldn't line up with the bottom if you made your cut lower. Either way is a lot of extra work. The decision is up to you.

There are many ways you could hinge the doors, but the method described is probably the easiest. The only precautions you must take is to keep a damp cloth in back of the area where you are heat molding the hinge in place. This will help prevent the plastic from warping or sinking. Also, make sure the hinges are in the proper position (height and with the tubing parallel to the door).

If you have built nothing but funny cars, or if that's all you have built for a while, give customizing a try. Anyone who can build and detail a funny car can duplicate this article. Good building!



*Do not break off any large "trees" like these. If you do, you will damage the body parts. Cut them off.*

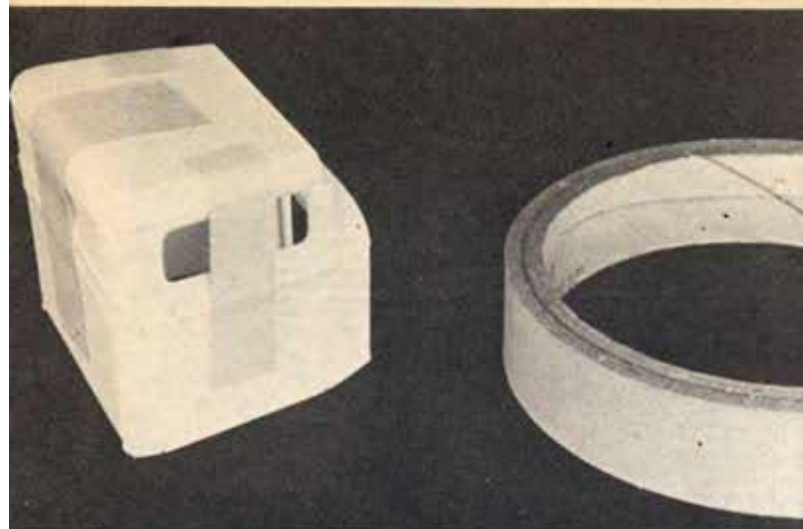


*Apply a piece of masking tape to a piece of glass, then cut a piece out of the center of it (3/16"), the amount you wish to chop the top.*

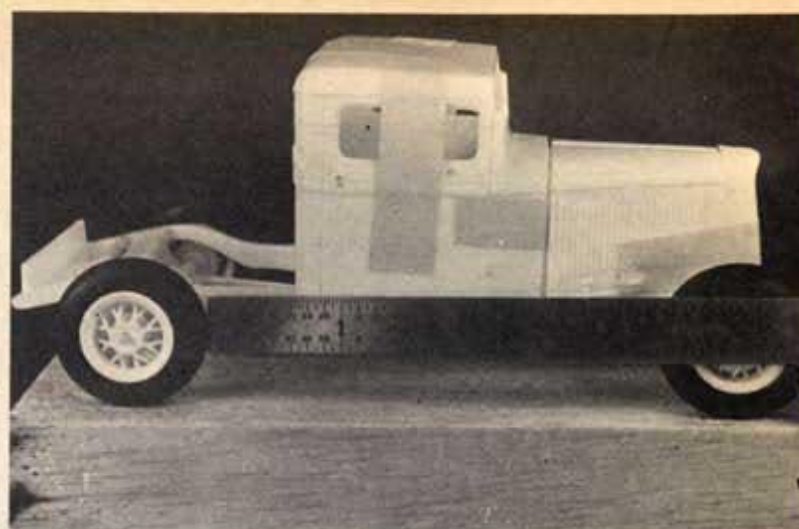


*Apply the tape to the cab. The front posts should be cut as close to the top as possible. Chop the top with a razor or micro saw.*

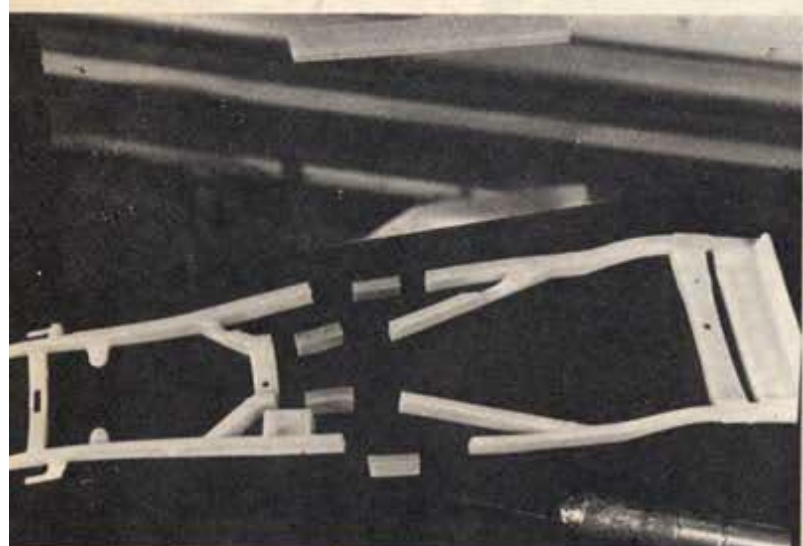




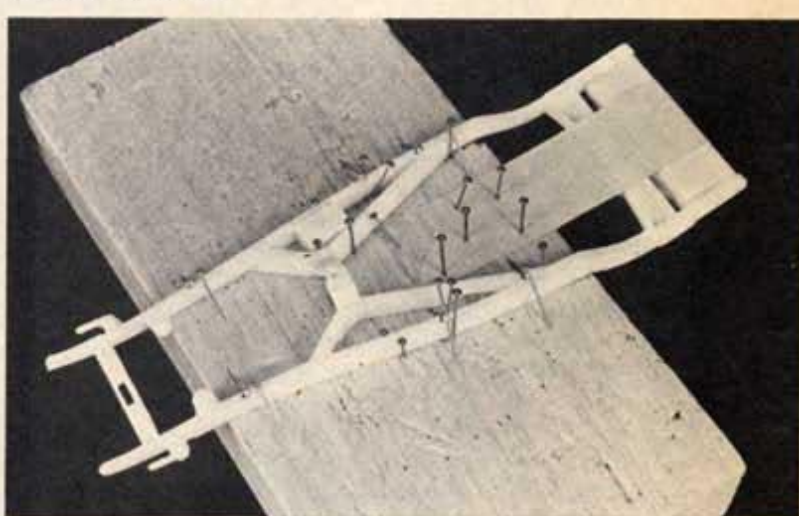
File the joints smooth, then glue the top in place, using the door lines to line it up. Tape in position while drying.



Set up the chassis and body, as shown, and decide how much you can shorten the frame. Don't get the rear wheels too close to the cab.



Cut the frame where indicated. A micro saw is best to cut the "X" frame brace. This was shortened  $\frac{3}{8}$ ".



Use a block of balsa and pins to make a jig for gluing the frame back together. Make sure everything is square before doing any gluing.

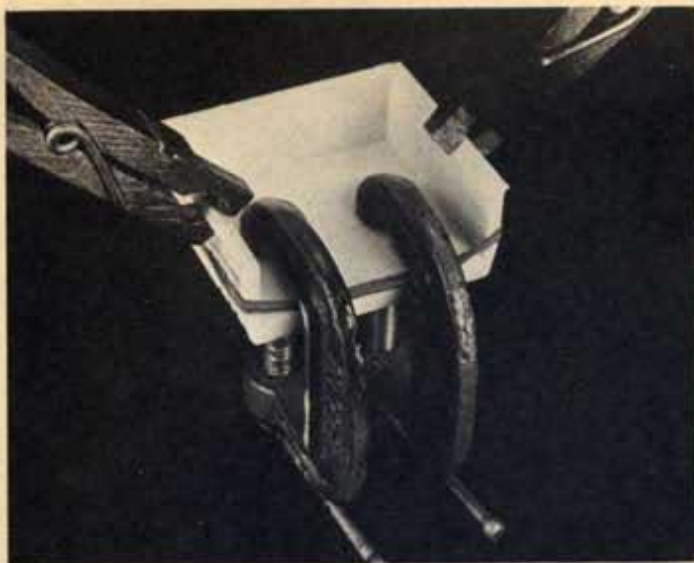


Cut down the stock windshield frame and the windshield. The tape not only outlines the cut, it protects the plastic.

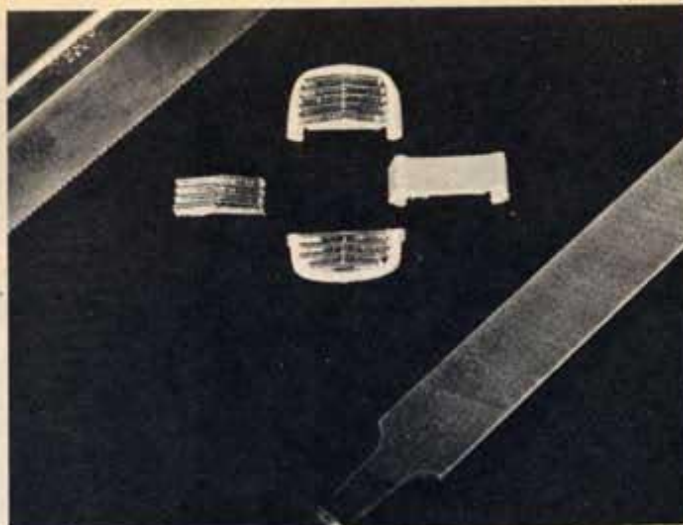


The bed can be shortened a maximum of  $1\frac{1}{16}$ ". Shorten it the same way you have before, using the masking tape guide.

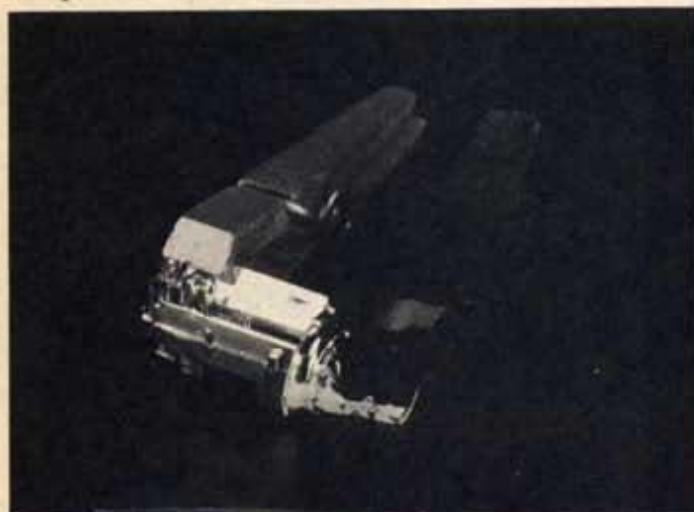




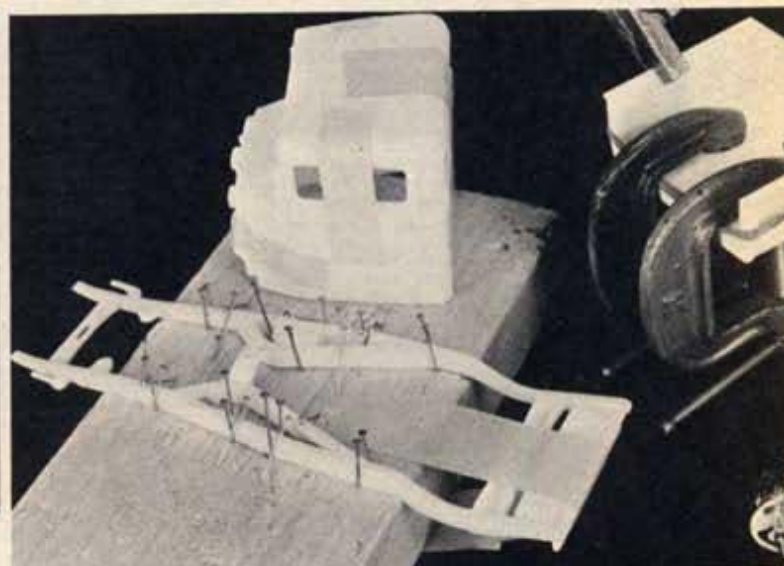
File and sand off all moldings on the bed before you glue it together. Clamp it in position for drying, as shown.



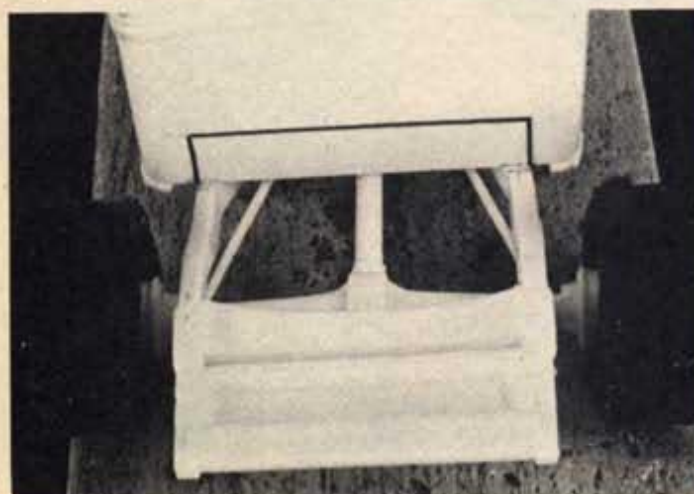
Section the grille shell and grille the same amount you channeled the body 5/16". Chop the radiator a like amount.



File off the chrome around the seam of the engine, and glue the two halves together. Clamp as shown, allow to dry thoroughly.



Coat all glue seams with liquid glue. Two coats at 24 hour intervals is best.



Measure up 5/16" and draw a line across the back of the pickup. Cut out the section indicated just slightly wider than the frame.

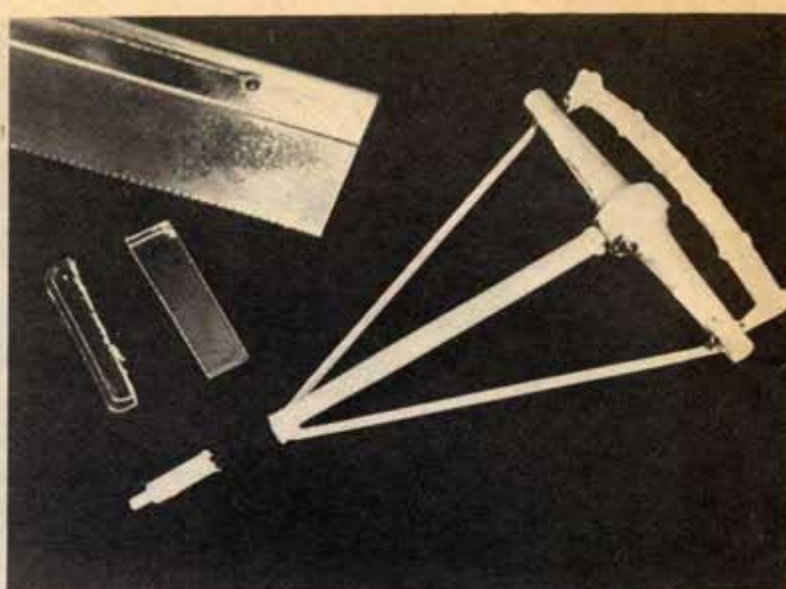


Cut 5/16" from the bottom of the firewall. Tape the piece you cut off (in black to show up better) to the rest of the firewall and file the opening for the engine, using the cut-off piece as a pattern.





Cut the rib on the gas tank down  $\frac{3}{32}$ ". Shorten the bed cover to fit the bed, and cut  $\frac{5}{16}$ " off the seats.



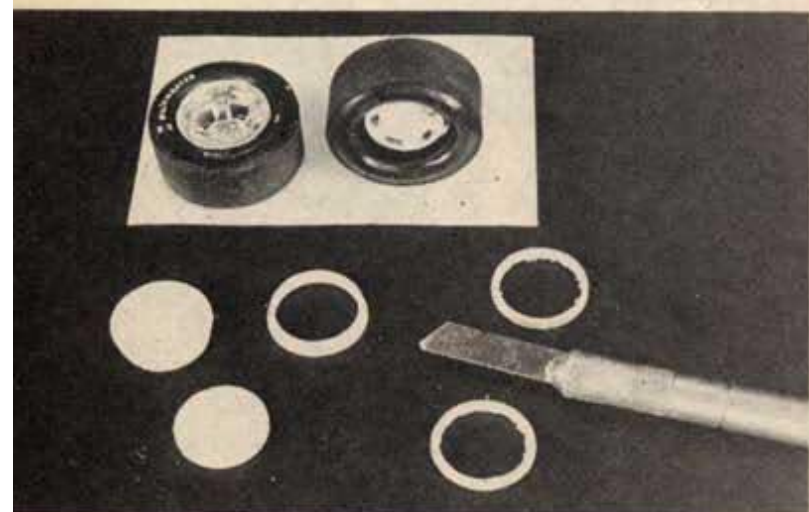
Shorten the driveshaft to fit, and cut the rear window down to size.



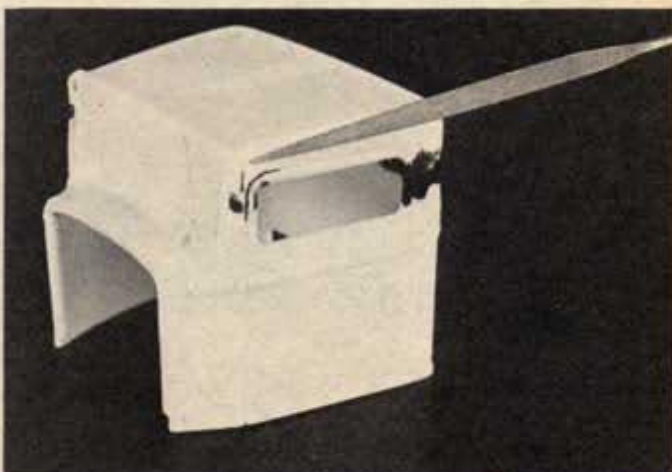
For a tire swap, decide which parts need to be modified. Two rear wheel parts from the pickup kit, glued together, make up the rear rims for the front tires. File the second rim off, though. Stock kit front wheels are used.



Rear wheels are the ones for the tires. Cut the rim off the front part of the wheel and file it flat. Cut the rims off the double inner wheel rim from the '34 kit so you have just a flat wheel piece, with the shoulder for the metal axle.

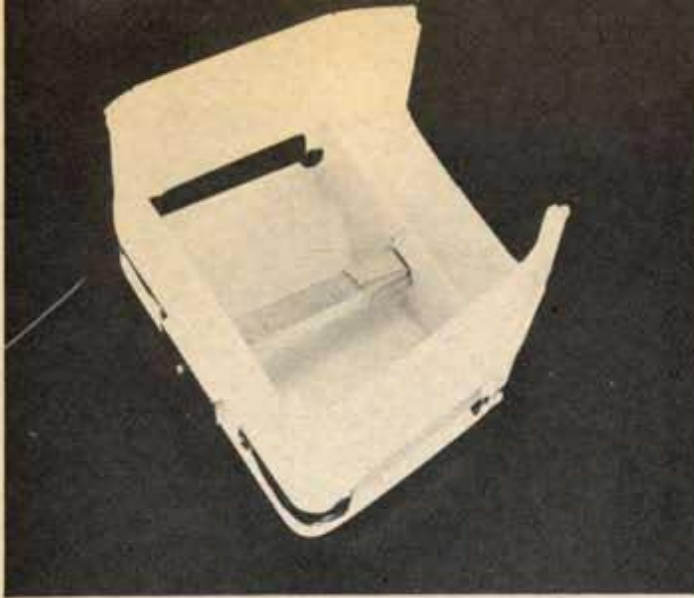


Cut down the rear rim of the wheel the thickness of the flat wheel piece. Glue the flat wheel piece to the cut-down rim.

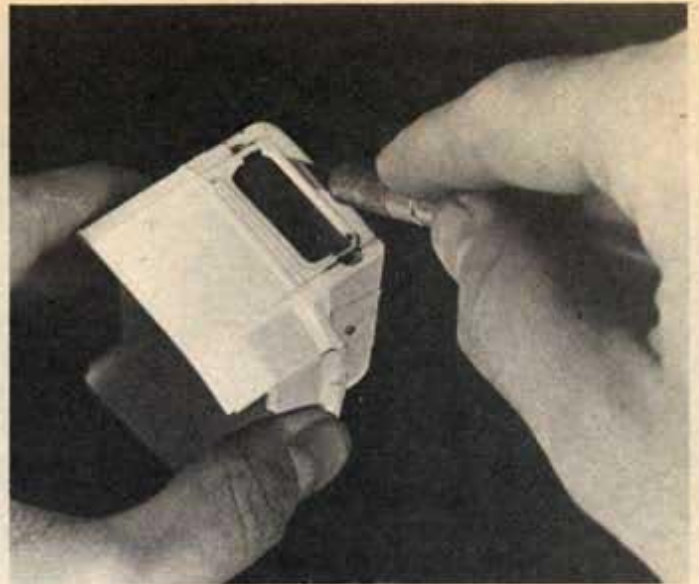


To keep the cowl from breaking off from the top where you chopped it, make a window brace using the supplied pattern. Bevel the edges, where indicated, to fit flush with the top.





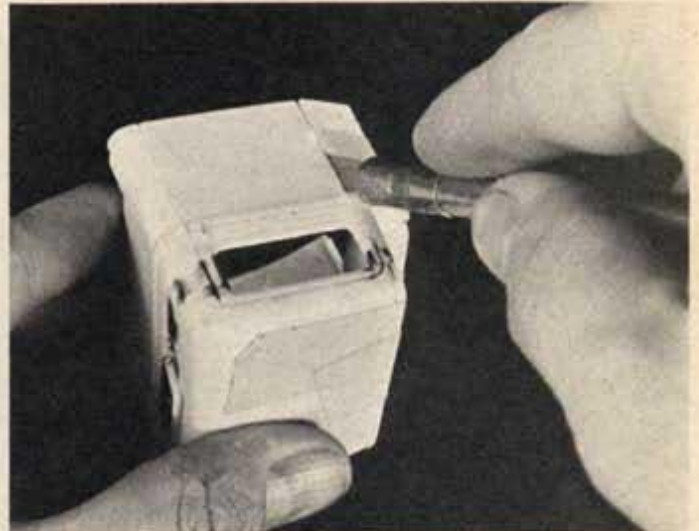
Cut a length of  $\frac{1}{4}$ " square wood to brace the top, as shown. 00-90 screws, through the window braces and a piece of plastic in the back window, into the wood securely bracing the top.



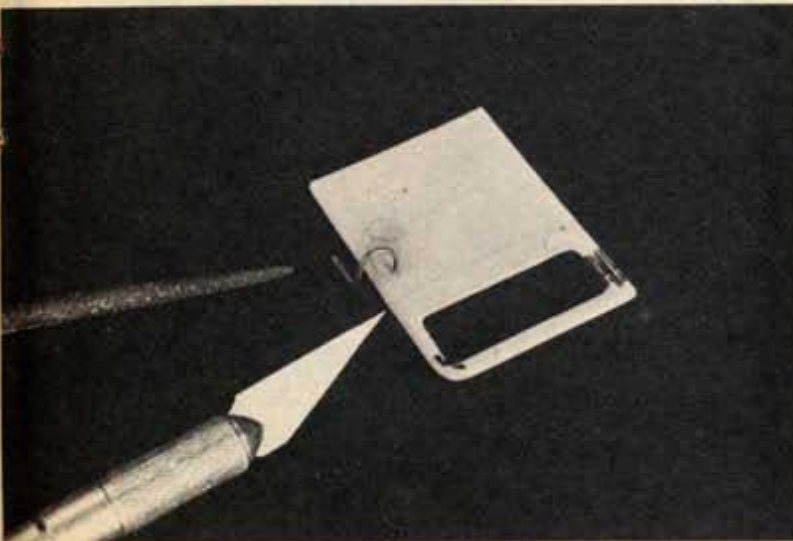
Cut the top of the doors first, both sides.



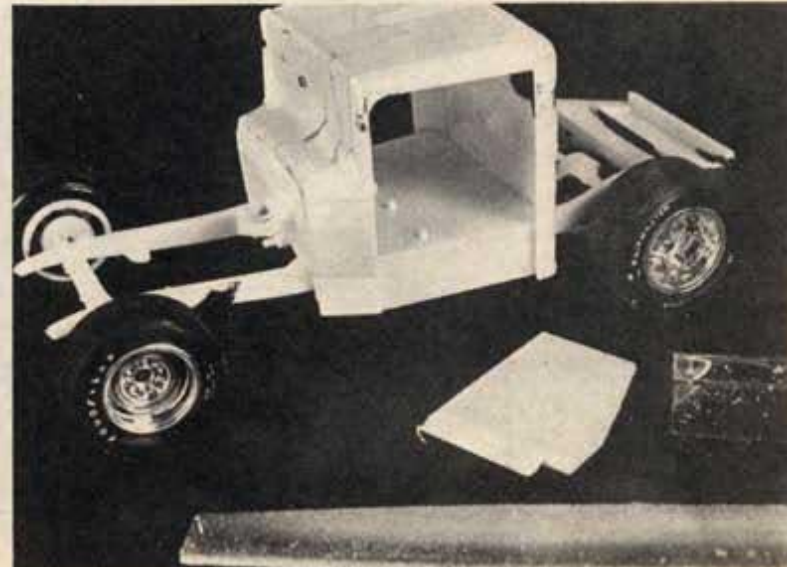
Carefully cut the curved part of the door, both sides. A jewelers saw is best, but an Auto Cutter will work.



Cut the front part of the door free, both sides. Then finish cutting out the rest of the door.

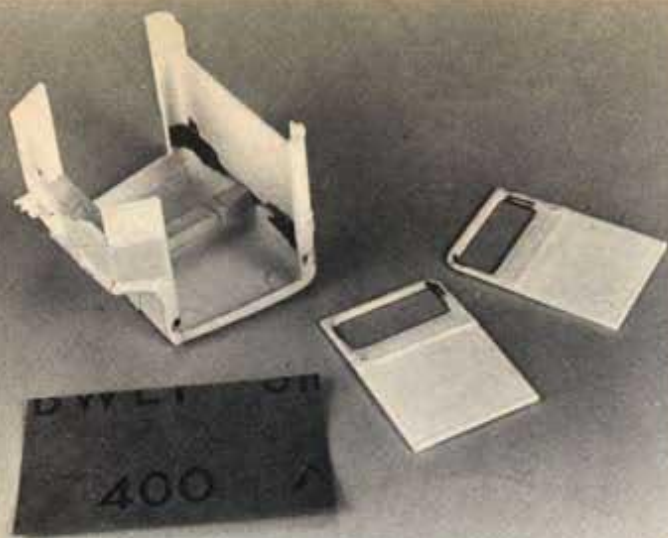


To get the door to open, you may have to bevel this edge. Do it before you install the hinges.

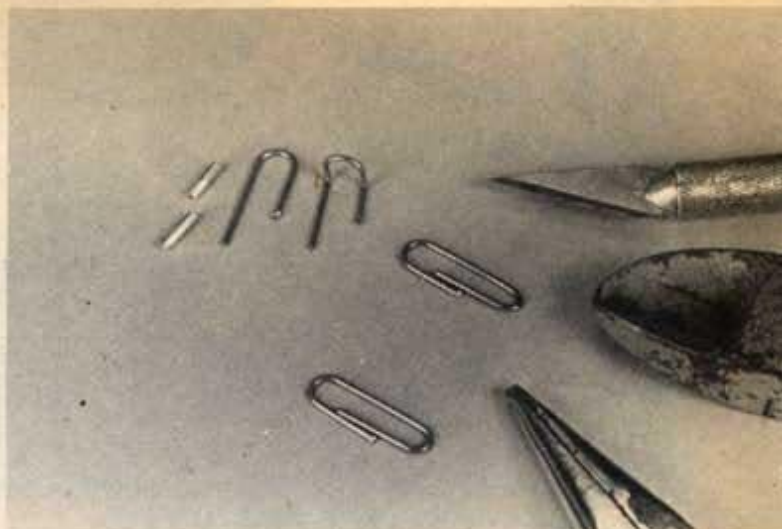


Bevel a piece of plastic, then cut it to fit the interior to cover the frame.

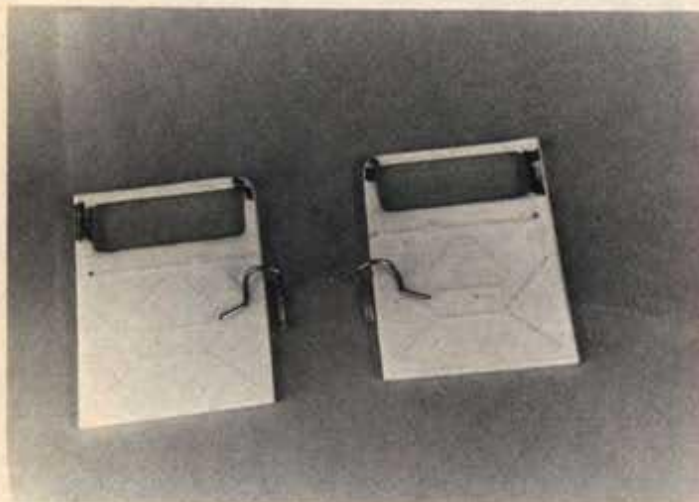




*It is best if you wet sand the cab interior and door edges, before installing the hinges.*



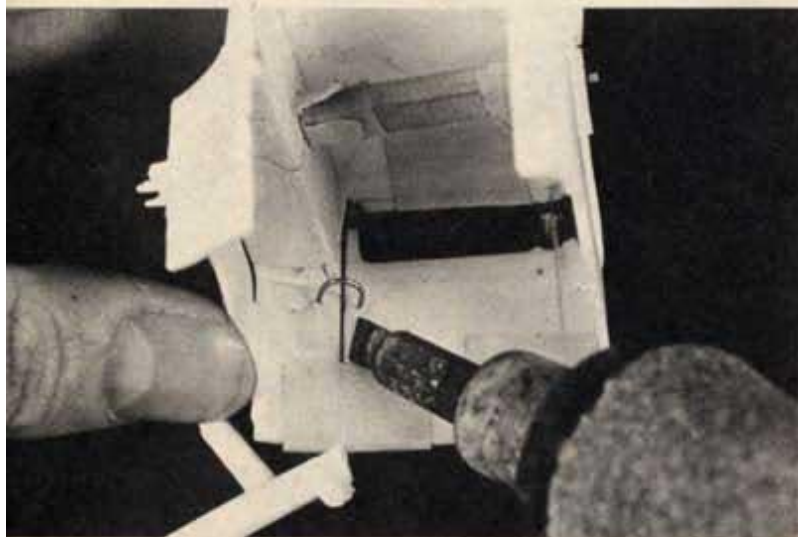
*Cut two  $\frac{1}{4}$ " long pieces of  $\frac{1}{16}$ " tubing. Cut two paper clips (which fit inside the tubing) apart and bend them to a 90 degree angle, as shown.*



*Slip the tubing over one end of the bent clip and bend the other end as shown. Tape the doors in position.*



*Position the hinge half-way over the crack. Heat sink the tubing in place, then the other end of the clip (to the door).*



*Mold extra plastic over the hinge for a strong joint. Apply several coats of liquid glue to the joints, also.*

**48/Model Car Science**

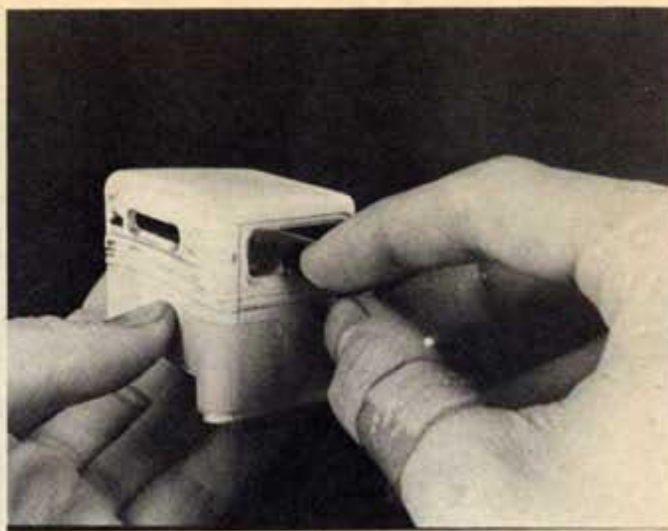


*After you have wet sanded most of the body, tape the doors in position from inside. Remove the top braces and finish sanding the body.*

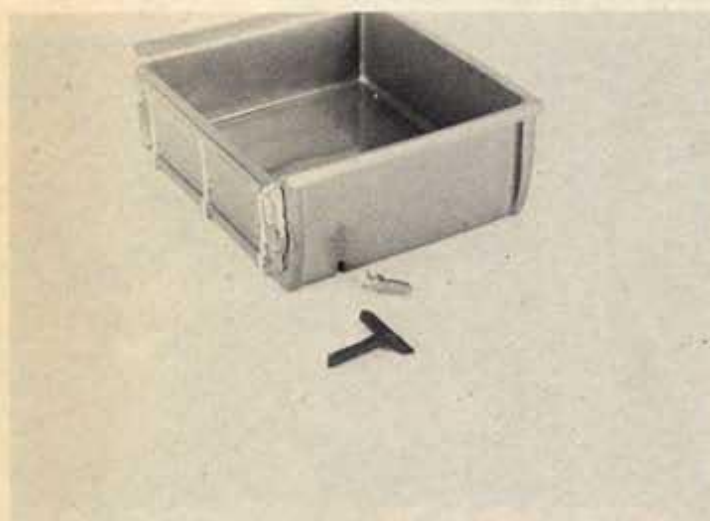




Carefully mask off the exterior body, then paint the interior. When the interior is dry, mask it off and paint the body.



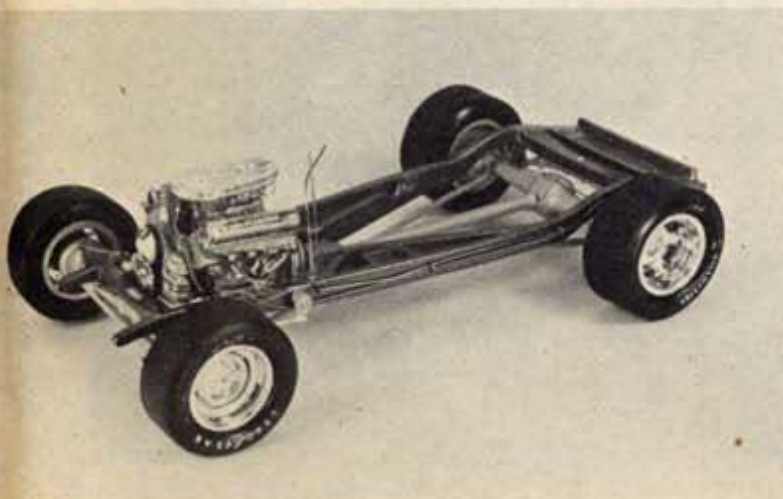
It may be necessary to sand some of the interior color from around the windows, where it is hard to apply the tape.



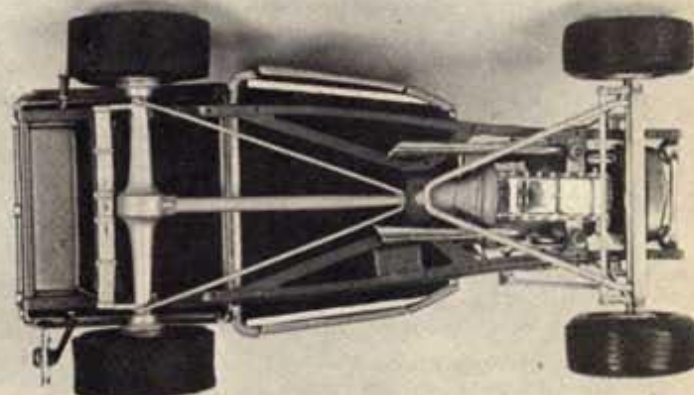
Shorten the radiator hose to fit. File a notch in the right side of the bed for the gas cap before painting.



File small notches in the fog lamps to fit them in place between the frame rails. Paint the area between the grille ribs flat black.



Clamps made from thin wire are epoxied into holes drilled in the frame to hold the gas and brake lines in place.



Exhaust/muffler from the '34 Ford kit are glued in place under the car.



KNOWING WHEN AND WHERE TO USE WHAT  
IS HALF THE SKILL OF MODEL BUILDING

# GLUES & EPOXIES



For static or slot racing model cars, the modeler should know where to best use Pliobond, liquid and tube plastic cement, rubber cement, liquid and stick epoxy.

Attaching one part to another on a model may seem like the simplest of all the modeling skills. It can, in fact, be just that IF you know what glue or epoxy to use.

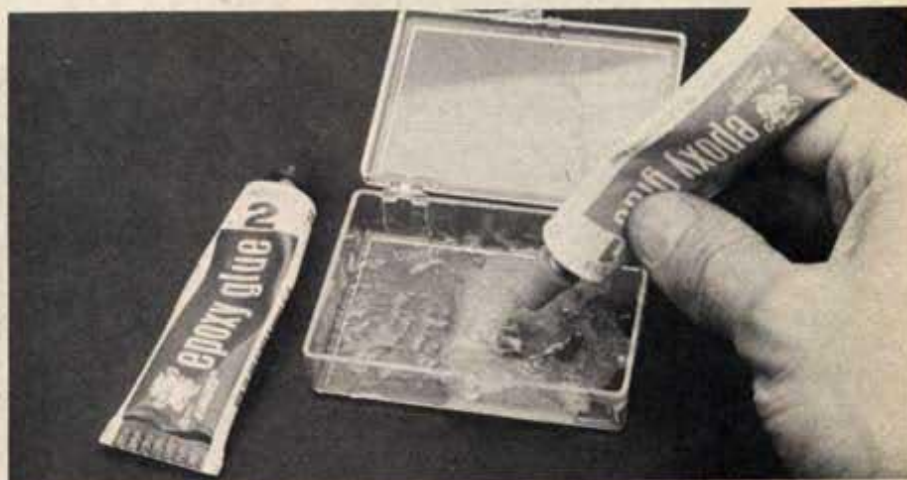
There are two general families of bonding agents: those that form a chemical bond with the materials they are bonding, and those that simply form a tight mechanical bond with the microscopic pores of the joining material's surfaces.

Plastic cement, used to glue unplated styrene plastic parts together, forms a chemical bond between the two parts since the cement works on the principle of dissolving the surface to form a tight joint as the cement's thinner evaporates.

Epoxy forms a purely mechanical bond between any two materials. It won't attack the surface of any material a modeler is likely to encounter.

Goodyear's Pliobond is a type of rubber cement that is very similar to most brands of contact cement. On most materials, Pliobond or contact cement will merely form a mechanical bond between the two joining surfaces. If Pliobond is used to join plastic surfaces, however, its thinner will attack the surface of the plastic with much the same effect as "normal" plastic cement. In some cases the exact type of plastic an effect it ability to bond with other plastic parts. In these instances, or anytime you're not sure how the materials to be joined will react to the glue you are using, experiment on a bit of scrap.

For any tight glue or epoxy joint, you need to know the characteristics of both the materials and the glue or epoxy needed to join them.

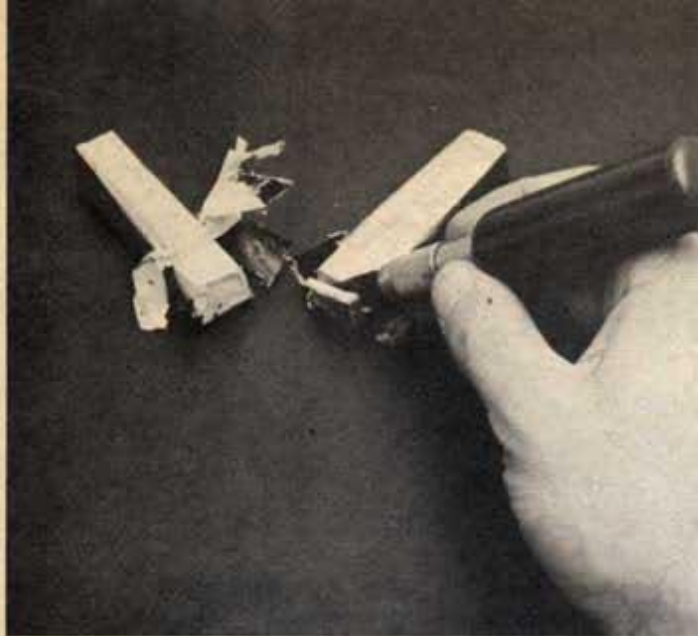


For maximum strength, it is most essential that exactly equal parts of epoxy and its catalyst be mixed thoroughly.



For windshields with a minimum of contact area, like this Chaparral, a thin bead of thin epoxy will be stronger than plastic cement AND it will not "craze" the window.

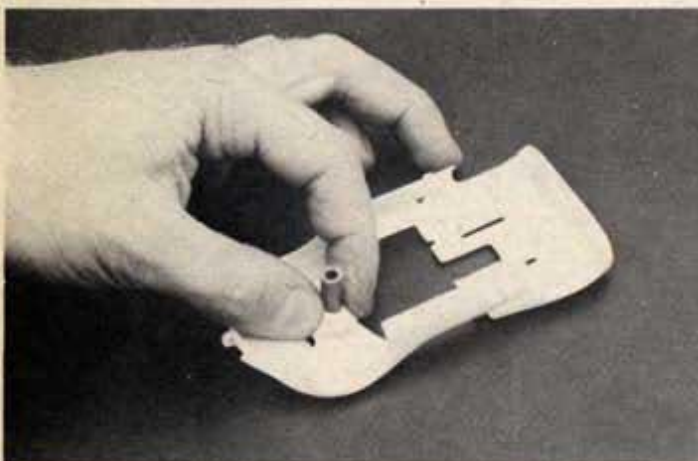




The newer "butter stick" type of epoxy, like "Epoxybond," looks and feels like modeling clay. Slice off equal amounts.



The equal mix of "Epoxybond" epoxy and catalyst make excellent reinforcing beads for the nose and tail of clear plastic bodies. Putty-like consistency helps.



Body mounting posts in solid plastic HO or 1/32 scale bodies can be relocated to adapt other chassis if post is epoxied in new position. Joint will be stronger in joining surfaces are roughed up a bit.



Pliobond or contact cement makes an excellent glue for joining two flat pieces of metal. Brass "pan" is glued directly to bottom of motor.



Rubber cement has little strength but works well with lightweight parts. If interior is rubber cemented in place it can be removed without damaging body.



Liquid plastic cement is best used where two large, flat surfaces are to be joined or around the edges of tight-fitting parts like coupe windows. It will not "craze" clear plastic quite as badly as tube cement.



# Adding Realism To Your Home Racing Set...

A few dollars worth of detailing can make any "blah" plastic track look like the next best thing to the real scene!!

**D**O YOU RUN ON A DULL-LOOKING PLASTIC TRACK? Get up off the floor and go somewhere in slot racing, besides in little circles.

If you have a home set lying on the garage floor and you suspect that you might be missing something, this is what you can do about it: The added realism of the well detailed slot track can really do something to stimulate your interest in your home set. All you need are a few low cost extras.

The first thing that you want to do is mount the track on a board of plywood. A 4x8 foot board gave us scads of room to mess with using our Monogram LeMans layout. An edge of 2-inch high strips borders the entire board to

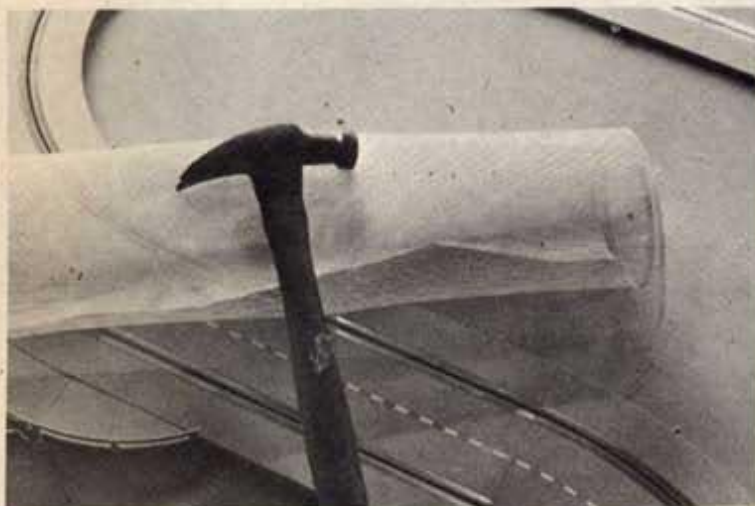
give the ground material something to build up to. Small wooden blocks were used to build up the screening for those areas to be converted into hills.

The screen, incidentally, is standard aluminum window screen, purchased at the local hardware store. The screen gives an excellent surface for the Perma

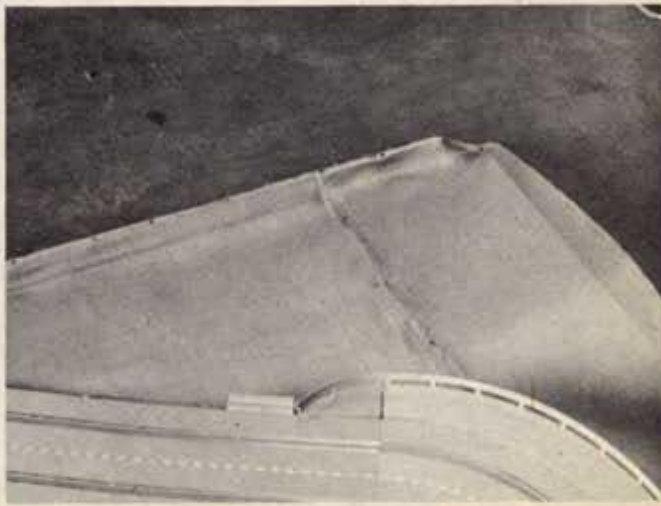
*Running on the finished track can do a lot for the sport. There's something about the added realism that makes it more fun.*



*Two-inch wood stripping is used to border the outside of our 4x8 foot board to give us something to build our screen up to.*



*To give the ground material a good surface to grip on, aluminum window screen was found at the local hardware store.*



*Using carpet tacks or wood staples, fasten down the screen in as many places as possible. Bring the screen an inch under the track, and then permanently fasten the track to the board.*





*For hills and other contours in the surface use wooden blocks to build up the desired area.*



*A mixture of Perma-scene and paper mache is now spread over the entire surface. Allow several days to dry, but grass and dirt can be sprinkled onto the wet compound.*





*Trees are easiest to add by choosing a drill to match the size trunk . . .*



*. . . drilling a hole at the desired spot . . .*



*. . . then place the tree in the hole, with some willhold glue to keep it there.*

*For the finishing touch some rocks and lichen are scattered liberally about the scene.*



*The first thing that you will want to add are people. Mechanics galore come from Monogram, Strombecker, and Eldon.*



*A static car fills up more blank space in the pits, while a pit man flashes info to a speeding driver.*



Scene and Instant Papier Mache to stick to, and it covered the entire board with the exception of the track. Staples or carpet tacks hold it all down snugly.

Now using various mixtures of Perma Scene and Instant Papier Mache and a table spoon, the layout was given a coat of scale dirt and other forms of earth. One note here was that brownish, coarse nature of the Perma Scene made fine cover for grassy hill areas while the finer, grayish papier mache looked exactly like the barren ground at nearby Riverside International Raceway. While the surface of the ground is still very

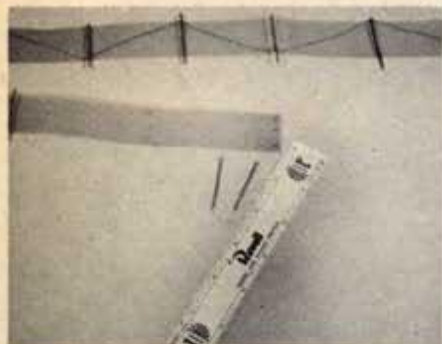
moist (up to 3 hours, depending on the weather), Life-Like brand grass and dirt was sprinkled as artistically as possible.

The glue in the ground mixture will hold most of the grass and dirt, while the excess can be vacuumed up after the drying period. The shade trees, from HO scale accessories, are now placed in small groves of three or four each in spectator areas and around the grandstands. A small drill, matched to the size of trunk, was used to bore holes for the trees, and "WilHold" contact cement keeps them in place. For the final landscaping exercise, shrubs or bushes of

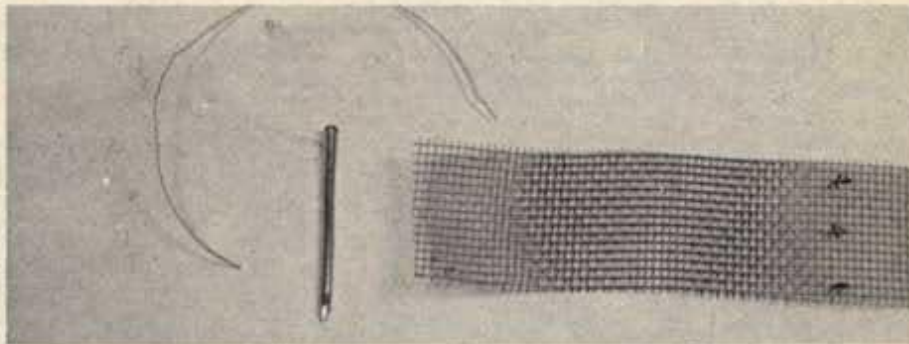
lichen, in various colors, are scattered about at the bases of trees and anywhere else that may look bare.

Now we've got something. You are no longer just running around a slot track, but now it's a race course. But something is still missing. People and buildings.

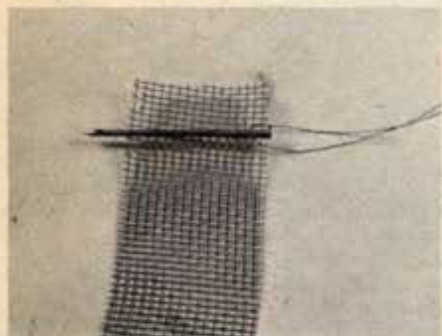
Raceway buildings add glamor to the scale slot tracks, as the landscape added realism. Primary structures found on our 4x8 are permanent pits, grandstands, and a two-story timing tower. The pits and tower are beautifully detailed Monogram units, while the Plastic-



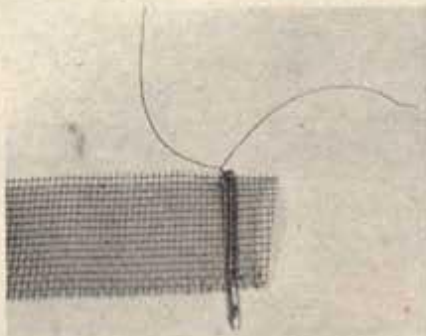
*Chain link fences are a cinch with the left-over window screen and some aluminum nails.*



*First off unravel a short length of screen for a fastener.*



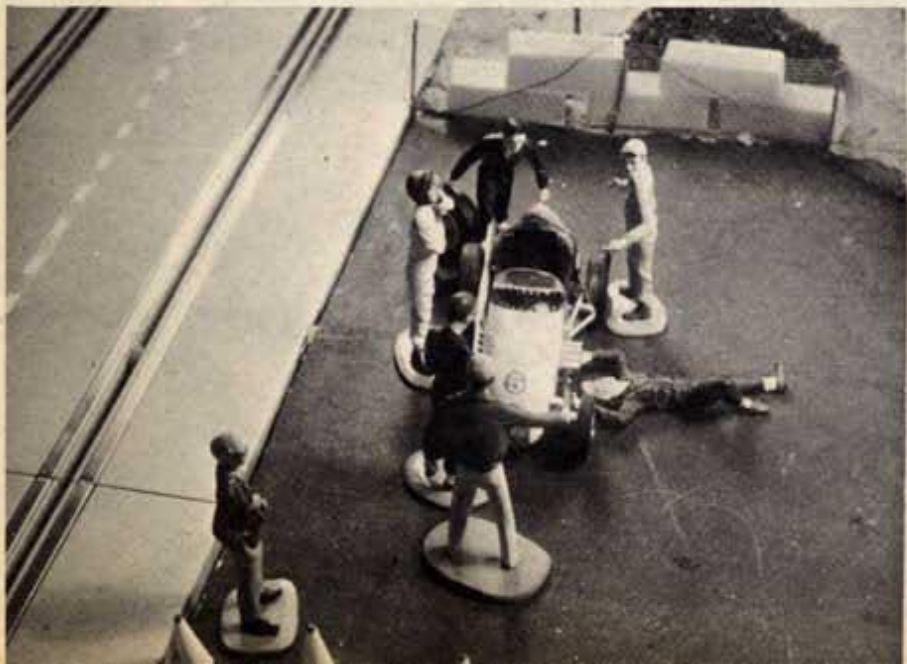
*Loop the thread over the nail and through the screen "fence".*



*Carefully twist the ends tight. Three equally spaced fasteners will do the job.*



*Beyond a doubt the pit area is the most exciting area of the track to detail, but the above scene leaves quite a bit to be desired.*



*While the pits are used primarily during a race, often a track will have another paved area where pre-race preparation can be taken care of. This "paddock" was built of flat black cardboard and molded flush with the ground cover.*





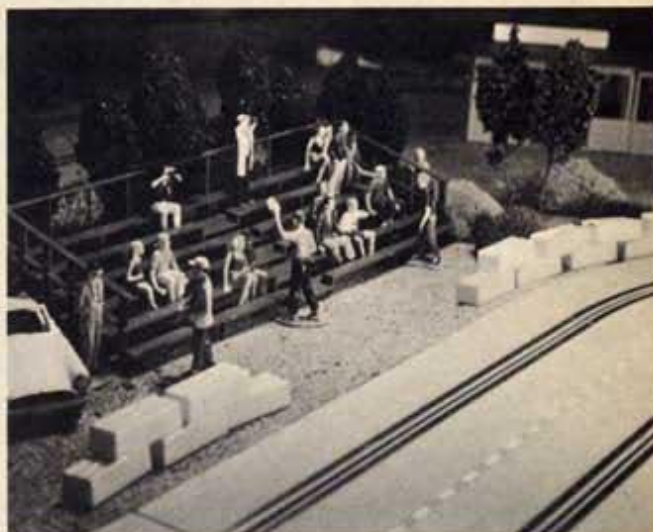
*The handiest vehicle made to 1/32 scale has got to be AMT's 61 Ranchero. Most decal sheets have tons of stickers to make it into a real pro pit machine.*



*The MCS Ranchero went to the races disguised as a mobile T.V. squad's transportation.*



*Unsurpassed for spectator detailing was my trusty 000 brush and Flat's fantastic array of matte finish paints.*



*The hardest thing to make realistic on the track is a grandstand. This is Bachman's 1/32 scale version. The whole set-up had to be sprayed with a clear matte finish and sprinkled with dust.*

ville division of Bachman supplied the stands. Other buildings are available from England's Scalextric and Strombecker. Construction is simple, but for the authentic feel a coat of flat white or grey is imperative. For extra detail, stickers from decal sheets and magazines can be glued on anywhere. Placement of the pits is on the straight along the grid; the tower is situated near start-finish; and the grandstands or bleachers pop up at any exciting turn.

Okay. Buildings for glamor, landscape for realism. What's left? People and cars for life. The pits jammed with mechanics, racing machinery, and drivers. The

*Stopwatches click in the timing tower as the winning car streaks across the line, while a thirsty driver tells of his Lola's misfortunes.*



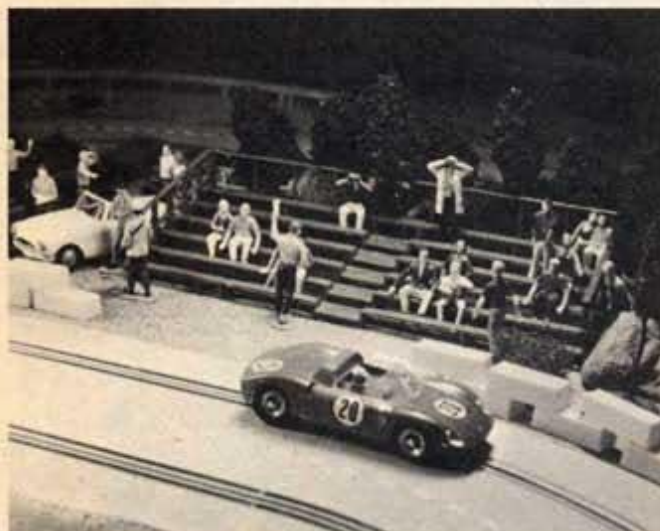




*On the scene Monogram's crew and AMT's truck add class to any turn, interviewing your favorite hero driver.*



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